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# THE ALEWIFE OPEN SPACE PLAN

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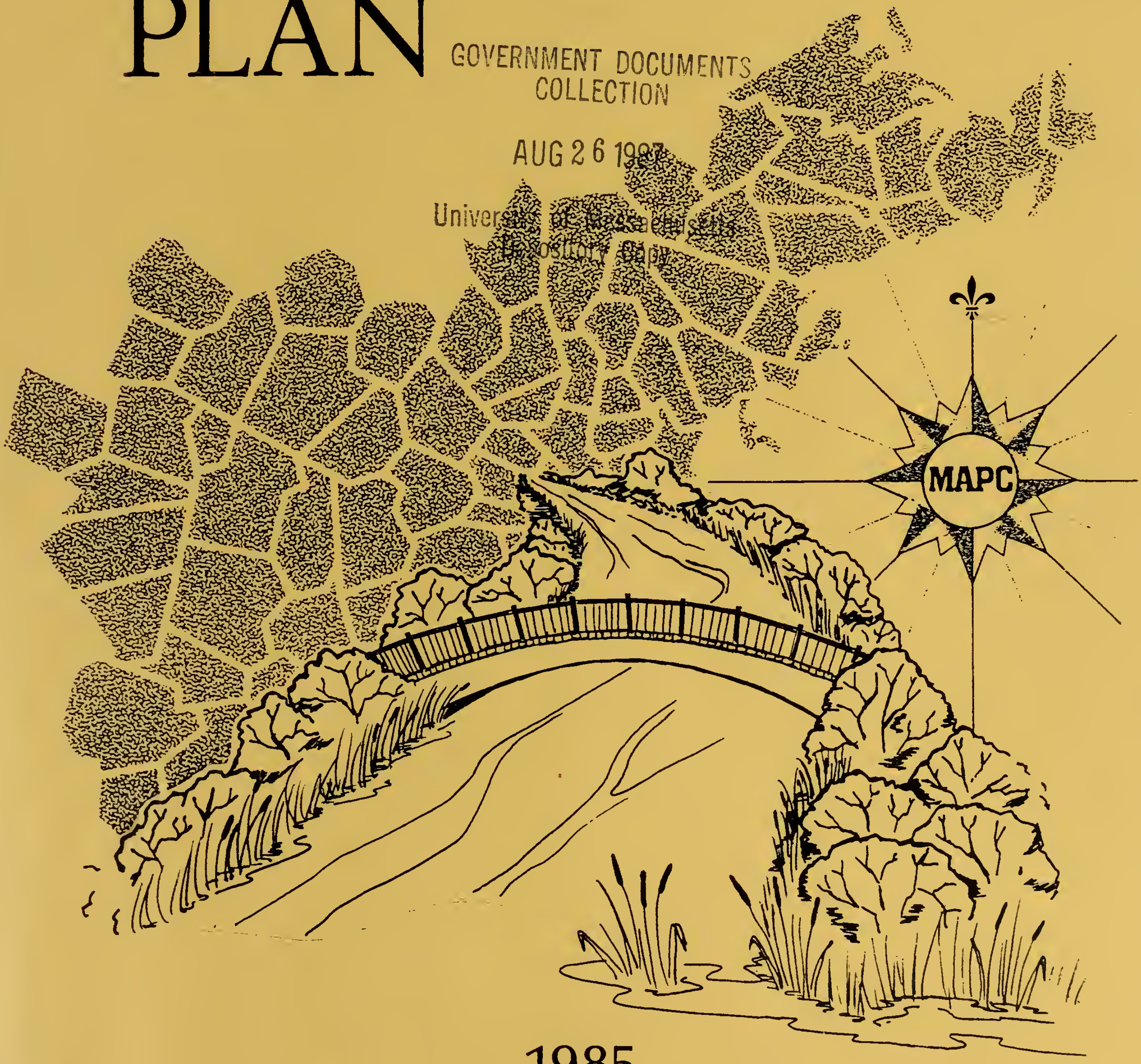

1985

Metropolitan Area Planning Council

110 Tremont Street Boston, Massachusetts 02108

# ABOUT THIS REPORT

This report was prepared by the staff of the Metropolitan Area Planning Council under the supervision of its Executive Director. The Metropolitan Area Planning Council is the officially designated regional planning agency for 101 cities and towns in the Boston Metropolitan area. The Council offers technical assistance to its member communities in the areas of land use, housing, environmental quality, energy, transportation and economic development.

The preparation of this report was financially assisted by the cities and towns of the MAPC region.

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This report was partially funded by Grant #22946 from the Massachusetts Department of Public Works and Grant #0095 from the Urban Mass Transportation Administration. These two grants funded the first phase of the study (data gathering and coordination) but did not cover the costs of completing the plan. The writing and production of the final plan was funded entirely by the cities and towns of the MAPC Region.

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# I. PURPOSE AND SCOPE OF THE ALEWIFE OPEN SPACE PLAN

## Introduction

The purpose of the Alewife Open Space Study is to develop an open space plan and implementation program for the Alewife area which will preserve, enhance and manage the open spaces. The Alewife area is the site of unique natural features which are of local and regional importance for conservation, environmental protection and recreation. The open spaces are intermixed with other varied land uses and there is further public and private development planned for this area. An open space plan is needed to preserve the existing open spaces and to enhance the conservation, environmental protection and recreation functions of the area, and to manage the open space areas so that they work together as a system and relate as well as possible to the various land uses that surround them.

## Open Spaces at Alewife

The Alewife Study Area - The Alewife Study area is located in North Cambridge, East Arlington and East Belmont (see Figure 1). The approximate southern boundary lies towards Concord Avenue in Cambridge, starting at a point east of Loomis Street and continuing east until Alewife Brook Parkway. The boundary continues north along Alewife Brook Parkway to Rindge Avenue, east on Rindge Avenue to Clifton Street and north on Clifton Street to Whittemore Avenue (encompassing Jerry's Pond and Russell Field Park). From Whittemore Avenue the boundary continues west, taking in the Magnolia Playground, Thorndike Playfield and the Mugar site (located north of Route 2) as well as the Metropolitan District Commission (MDC) Skating Rink (south of Route 2). Going south, the study area takes in Little Pond and Blair Pond. (See Figure 1-B.)

The reason for designating these particular boundaries is that they encompass the open space elements at Alewife that most clearly need protection and enhancement. The guiding criterion was to establish a contiguous area that included the key elements. These boundaries describe only the outer limits of the study area. It is the open space elements within this boundary (described in more detail in Section III) which will be considered in this plan. This plan does not directly address all of the other land uses within the study area.

The Importance of the Alewife Open Spaces - The open spaces of the Alewife area are varied in terms of size and type. They range from the 95 acre Alewife Brook Reservation to the 3.5 acre Magnolia Field Playground. There are ten ponds within the study area as well as additional wetlands acreage. The Alewife Brook Reservation supports approximately 60 species of birds and lesser numbers of fish, reptiles and mammals (Sanders, Stewart, Personal field notes, unpublished).

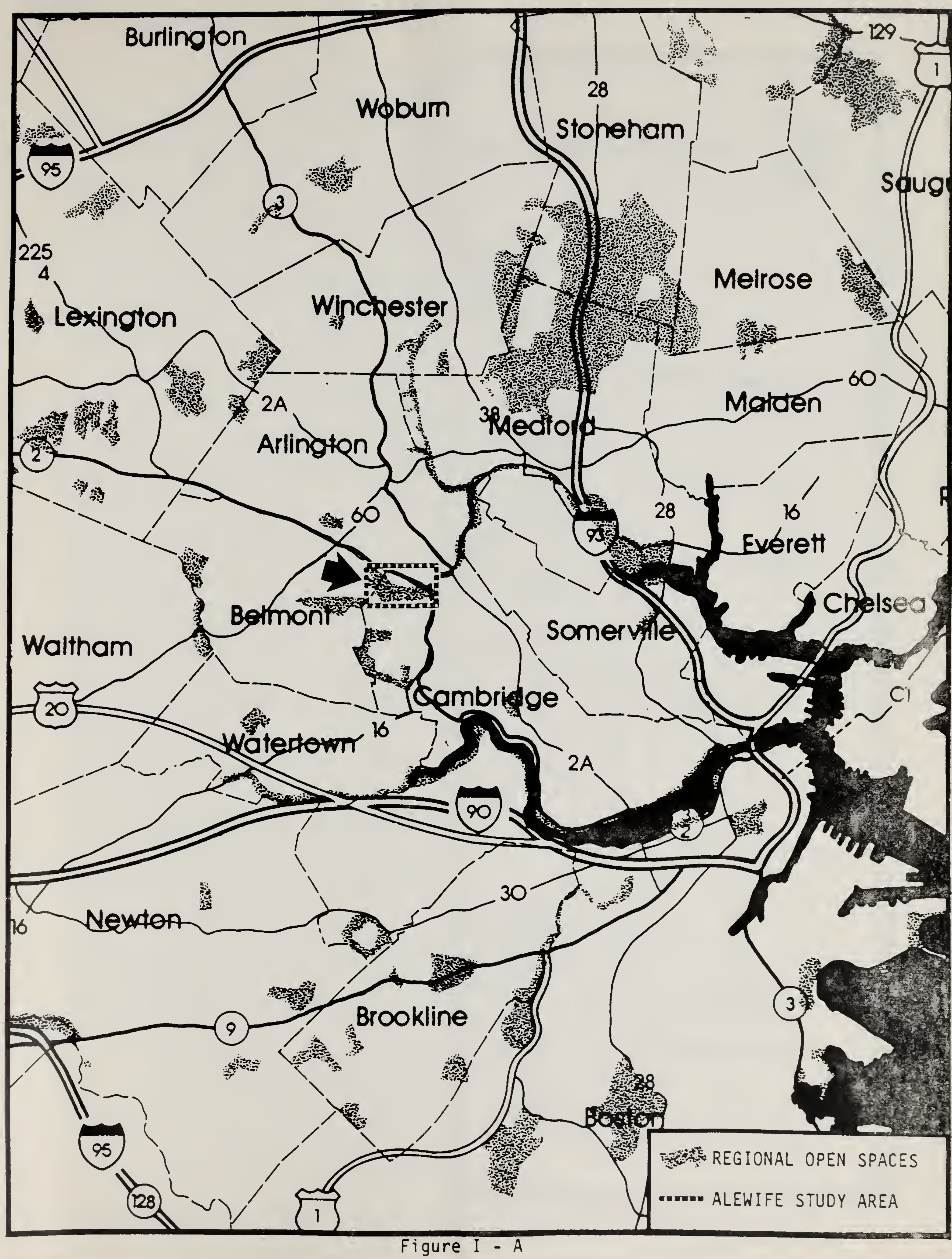

Burlington
Woburn
Stoneham
Saug
Melrose
Lexington
Winchester
Arlington
Medford
Malden
Everett
Chelsea
Belmont
Somerville
Waltham
Cambridge
Watertown
Newton
Brookline
Boston
95
3
28
129
1
225
4
2A
38
60
2
28
16
93
20
16
90
2A
2
30
16
9
3
28
95
128
1
REGIONAL OPEN SPACES
ALEWIFE STUDY AREA

Figure I - A

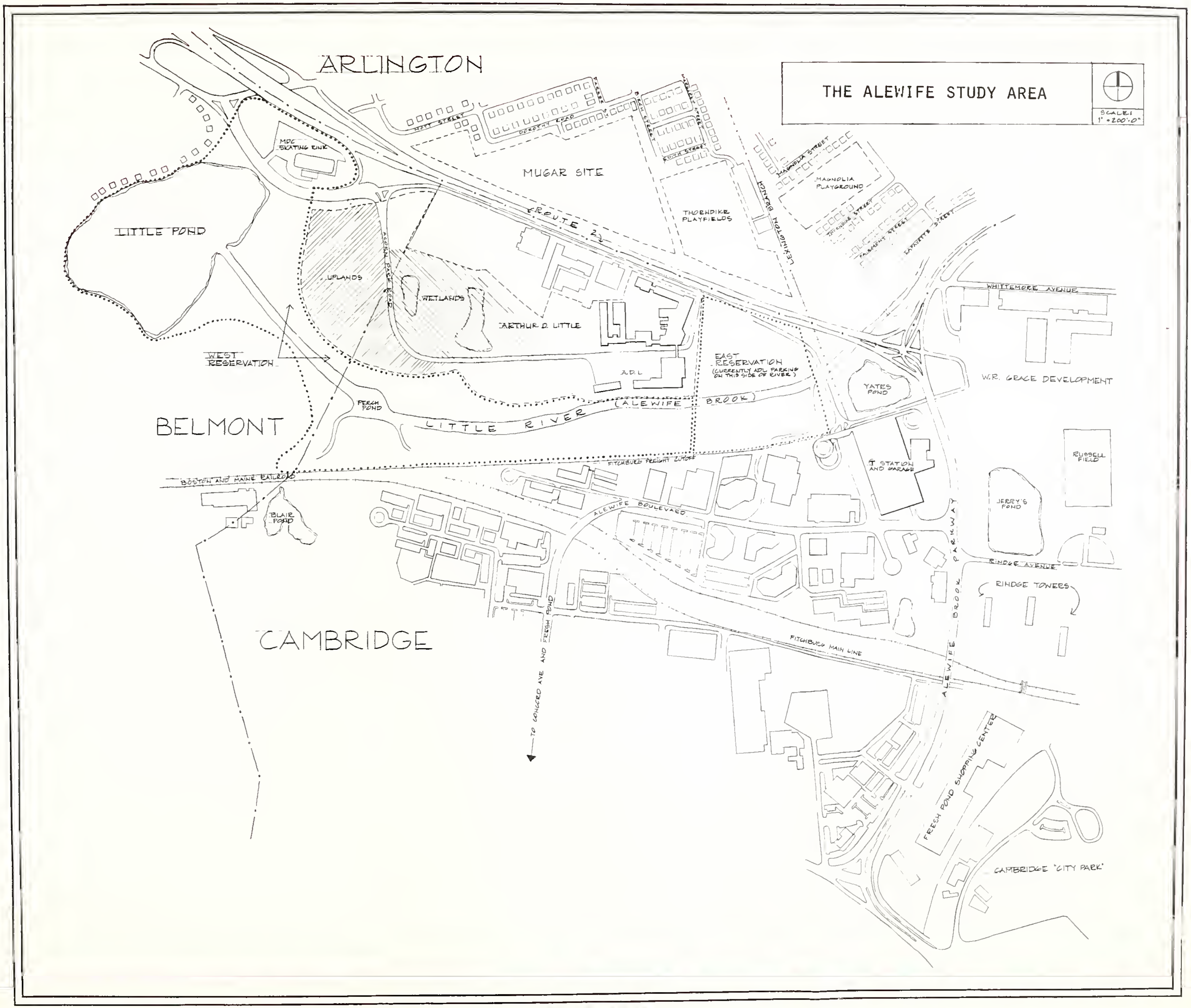

THE ALEWIFE STUDY AREA
SCALE: 1" = 200'-0"
ARLINGTON
BELMONT
CAMBRIDGE
MDC SKATING RINK
LITTLE POND
WEST RESERVATION
UPLANDS
ACORN PARK ROAD
WETLANDS
ARTHUR D. LITTLE
A.D.L.
MUGAR SITE
ROUTE 2
HOTT STREET
DOROTHY ROAD
PARKER
BIRCH STREET
EDITH STREET
THORNDIKE PLAYFIELDS
LEXINGTON BRANCH
MAGNOLIA STREET
MAGNOLIA PLAYGROUND
THORNDIKE STREET
FAIRMONT STREET
LAFAYETTE STREET
EAST RESERVATION
(CURRENTLY ADL PARKING ON THIS SIDE OF RIVER)
PERCH POND
LITTLE RIVER
(ALEWIFE BROOK)
YATES POND
WHITTEMORE AVENUE
W.R. GRACE DEVELOPMENT
BOSTON AND MAINE RAILROAD
FITCHBURG FREIGHT CUTOFF
BLAIR POND
T STATION AND GARAGE
RUSSELL FIELD
JERRY'S POND
ALEWIFE BOULEVARD
RINDGE AVENUE
RINDGE TOWERS
ALEWIFE BROOK PARKWAY
TO CONCORD AVE AND FRESH POND
FITCHBURG MAIN LINE
FRESH POND SHOPPING CENTER
CAMBRIDGE "CITY PARK"

Figure I - B

The individual open space elements will be described in more detail in Section III. These elements are an important recreation and conservation resource for the residents of the City of Cambridge and the towns of Arlington and Belmont. They provide opportunities for passive and active recreation. The wetlands also play a role in environmental protection by providing floodwater retention areas and by assimilating and eventually breaking down pollutants in the water. The Alewife Brook Reservation and the Alewife Brook Parkway are also of regional significance because they are part of the Metropolitan District Commission's (MDC) extensive system of reservations, parks, trails, and parkways. The parkway system links the Mystic and Charles Rivers, which are also important elements in the regional open space network (See Figure I-A).

## Other Land Uses

The open space areas in Alewife co-exist with a wide variety of other land uses. These uses include dense residential development, industry, warehousing, research and development firms and office buildings (See Figure I-C). The area is crossed by major roads and railroad tracks and is the site of the Alewife MBTA station. The area is still growing and there are proposals for construction of additional office buildings, as well as further transportation improvements.

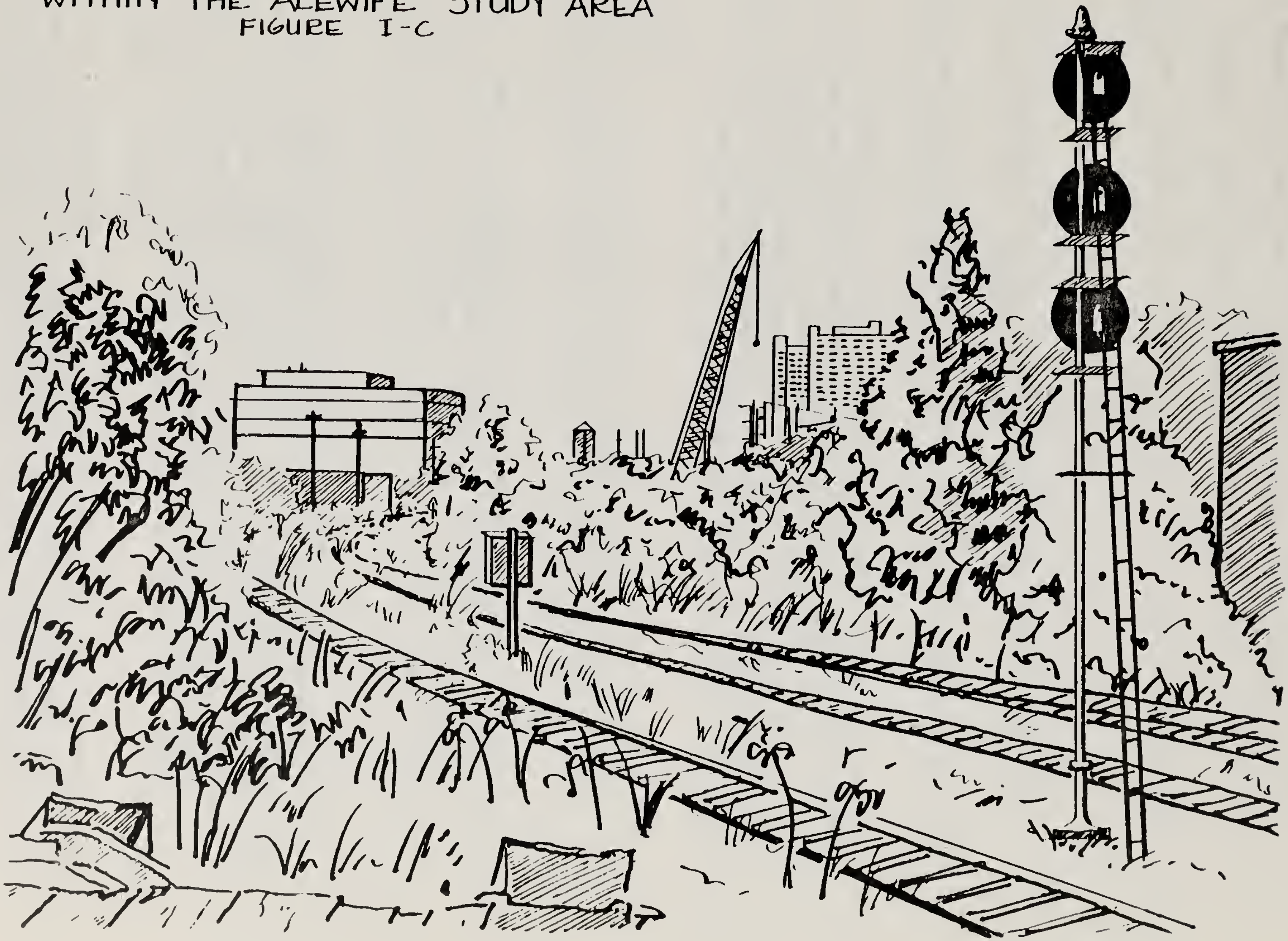
## Why an Open Space Plan is Needed

The agencies responsible for land use planning and management in the Alewife area have long recognized the potential conflicts and opportunities that result from the proximity of valuable open space to other more intensive land uses. These agencies include the Executive Office of Transportation and Construction (EOTC), the Massachusetts Bay Transportation Authority (MBTA), the Massachusetts Department of Public Works (MDPW), the Metropolitan District Commission (MDC), the Metropolitan Area Planning Council (MAPC), the City of Cambridge and the towns of Arlington and Belmont. These agencies have been involved in previous planning studies, particularly in conjunction with the construction of the new Alewife Station of the MBTA.

Most of the planning studies done previously focused on transportation or economic development. These studies included open space, but did not do so as their primary focus. The open space study prepared for the Alewife Task Force Subcommittee on Parks and Open Space in 1978 was a first step towards planning specifically for open space protection.

The current study is intended to build on the previous planning efforts and to produce a plan which protects and improves the open space areas, and which better relates these areas to their surroundings for environmental protection. This will be accomplished by following the steps outlined below.

A VARIETY OF LAND USES EXISTS
WITHIN THE ALEWIFE STUDY AREA
FIGURE I-C



1. Problem identification.
2. Setting goals and objectives to guide the study.
3. Inventory and analysis of existing conditions and future trends.
4. Development of alternatives which meet the goals and objectives.
5. Selection of a set of policies from the proposed alternatives.
6. Acceptance of the plan and implementation recommendations.

Public participation is an integral part of the process as well.

The plan developed through the preceding process will consist of three major elements:

1. General planning standards for the Alewife Brook Reservation.

2. A plan and general design guidelines for the other public and private open space elements in the study area.

3. Landscape design guidelines for the highway and trailway portions of the open space network.

This study is not intended to directly address the many issues of economic development and transportation improvements, except as they relate to the protection and enhancement of the open space areas. Neither is it intended to be a detailed design manual or an explicit capital improvement program. Rather, the document is meant to function as a general set of guidelines that will address pressing environmental concerns in the area.

## Expected Benefits

A carefully produced plan for the Alewife Study area can be expected to have many benefits, both short and long term. These benefits can be summarized as follows:

a. Natural lands in an urban area are a rare and valuable resource and once they are destroyed, they are difficult to replace. The Open Space Plan will preserve and enhance these areas for the enjoyment and use of local residents, as well as others within the sub-region.

b. The plan will serve as a guide to public agencies such as the EOTC, MBTA, MDPW and MDC in developing public improvements of all types which relate more sensitively to the open space areas. The plan will assist these agencies in preparing their budgets and capital improvements programs so that needed facilities can be provided in an orderly, cost-effective and coordinated manner. These facilities may involve any kind of project from roads, to buildings, to parks.

c. The City of Cambridge and the towns of Arlington and Belmont have the responsibility for reviewing and approving the plans for future developments. The Open Space Plan will aid them in reviewing these development plans in order to better protect the open space areas.

d. The majority of the study area is subject to flooding. With increased development, the problem is likely to worsen. The preservation of open space in this area will help in managing the flooding problems on a long term basis.

e. The document will help in channeling, guiding and improving the quality of private development by maintaining a more formally defined open space network.

## Summary of Past Planning

Major planning efforts for the Alewife area began in 1973 when the Red Line extension to Alewife was first proposed. In 1975, the Alewife Task Force was organized to allow for public participation in the planning process. In 1977, the Park and Open Space Subcommittee of the Alewife Task Force was established. The Metropolitan Area Planning Council (MAPC) prepared a limited open space study for the subcommittee. This report, published in 1978, is entitled "Alewife Open Space - Objectives and Recommendations for the Development of a Park and Open Space Network."

The City of Cambridge has also done a great deal of planning for the Alewife area. This planning resulted in a report published in 1979, "Alewife Revitalization: Alewife Urban Design Study Phase II." Another major planning study for this area was the East Arlington Development and Open Space Study (1980-81) prepared for the Arlington Redevelopment Board and the Department of Planning and Community Development. This three phase study resulted in an action plan for the East Arlington area.

The current MAPC study began in 1983. At that time, the Joint Regional Transportation Committee (JRTC) felt that an open space study for the Alewife area was needed. MAPC developed a work program which was approved by the SubSignatory Committee (SSC) of the Metropolitan Planning Organization (MPO). Funding was provided through grants from the Federal Urban Mass Transportation Agency (UMTA) and MDPW, as well as from MAPC's community assessment funds.

The study involved participation by many different public and private groups. The EOTC is the agency responsible for overseeing the construction of all transportation improvements in the Alewife Study area. The MDC was involved because they are the owners of the Alewife Brook Reservation and Alewife Brook Parkway. The towns of Arlington and Belmont and the City of Cambridge, as well as their Conservation Commissions, were also involved. The Mystic River Watershed Association was also an active participant in the planning process.

## II. GOALS AND OBJECTIVES

### Introduction

Every planning study is guided by a set of goals and objectives whether or not these are explicitly stated. A goal is a broad statement of purpose and an objective is a more specific statement of how to achieve or advance toward that purpose. Goals and objectives give focus to a planning study. They are most important in developing plan alternatives and in the final selection of a recommended alternative. In essence, they are the guideposts against which the alternatives are evaluated.

### How the Goals and Objectives were Established

A number of motivations and considerations guided the formulation of the goals and objectives. First and most important, this study was to be an open space effort and nothing else. It was not to be a development and/or transportation plan that happened to contain a subordinate open space element. The primary need to protect and improve open space resources in the project area provided the motivation, rather than any need to accommodate or mitigate development in the Alewife area.

Another priority was to strike a reasonable balance between all that has occurred in the past, both in terms of public participation and written material, and all that is taking place during the present report preparation. The intent was to temper all past efforts with some degree of fresh (and more formally structured) thinking.

Among the key past efforts at planning, discussion and public debate were the following activities. Regional public participation occurred within the Alewife Technical Advisory Committee, MAPC's Alewife open space planning, and included a whole prior generation of actors in the process. Publications included the Alewife Open Space Task Force Study (MAPC), the City of Cambridge Urban Design Study and open space sections of transportation studies and environmental impact reports.

This past activity, and the knowledge gained from it, cannot be ignored, or it will have been a futile exercise. It must be modified, however, by some fresh objective thinking and a more structured planning framework. In a situation where an absolute consensus has been unattainable and is likely to remain so, only the most logical and careful thought process will produce a largely agreed upon and supportable set of recommendations.

To reach that degree of substantial, if not absolute, agreement, it is necessary to have a realistic and focused set of goals and objectives. It is hoped that this report provides just that.

### Assumptions

Every study is also governed by a set of assumptions and these should be stated clearly along with the goals and objectives. These assumptions are situations or conditions which are considered unchangeable or fixed; they are the "givens" around which the study is conducted. They also come into play in the selection of goals and objectives.

The assumptions for this study are as follows:

1) The construction and location of the MBTA Station, parking garage, and access ramps were accepted as fact. The interim access ramps are currently under construction. There were five alternative alignments studied, with Alternative #4 selected for construction. Alternative #4 is shown on Figure I-B. The other alternatives are explained in detail in The Final Environmental Impact Report, M.B.T.A. Alewife Station Interim Access. It was not within the scope of the project to question the appropriateness of this construction. It can be stated, however, that from a purely environmental point of view, the construction of the T station, the garage, and most particularly, the disruption of the eastern end of the Reservation for the interim access ramps, were not the most desirable occurrences, even after implementation of extensive mitigation measures. Nevertheless, it is futile to begin the planning process with the obviously inaccurate presumption that neither the ramp site nor the T station even exist.

2) Current zoning and municipal land use controls would determine whether or not development should occur on any site. Certainly there are some who feel that the commercial/industrial zoning is too intensive or ambitious for the area, and that the infrastructure, as well as the natural environment, might have trouble supporting it. Nevertheless, the intent of this study is emphatically not to analyze land use policy or to propose rezoning actions in the City of Cambridge or Town of Arlington. These issues will be discussed only as they relate to open space protection. The only other treatment of private development within this document will be limited guidelines suggested for general site layout or buffering.

3) The Alewife Brook Reservation should be preserved and its natural quality retained through a sensitive and logical balance of landscape improvements and retention of natural areas.

## Alewife Open Space Study Goals and Objectives

### 1) Goal - Preserve Open Space in an Urbanized Area

Before active or passive recreation areas can be developed, the land must first be set aside. In an urban area, there are many uses competing for the remaining open land. During the past 16 years, an average of more than 3 square miles per year of potentially valuable open space land (much of it identified in past MAPC and State studies for preservation purposes) has been lost to development. The Alewife study area is subject to similar pressures.

The Alewife Open Space Plan is designed to provide for a wide variety of open space areas. The largest of these is the Alewife Brook Reservation. The Reservation provides a unique opportunity for nearby residents and visitors to experience local natural vegetation and wildlife. Therefore, special attention needs to be given to preserving the qualities which make the Reservation a valuable local resource.

Objectives

a) Prevent encroachment on existing open space lands through proper site design of new development and the provision of buffer areas.

b) Preserve currently unprotected open space lands through a variety of appropriate preservation techniques.

c) Encourage plant diversity in order to provide wildlife habitat, increased aesthetic value and ecological stability.

d) Maintain isolated and undisturbed areas in the most natural possible state.

### 2) Goal - Mitigate Flooding and Pollution Hazards

Increasing urban development contributes to flooding and water pollution. The Alewife Study Area has a long history of flooding and the water quality of some of the streams and ponds has been degraded. Open space protection can help to mitigate both flooding and pollution hazards. Preserving open space lessens the amount of paved surfaces which contribute polluted run-off. The preservation of wetlands allows them to perform their function as floodwater retention areas and as a filter for pollutants.

Objectives

a) Preserve and enhance (by appropriate measures) the capacity of wetlands to function as a regional flood control mechanism.

b) Enhance the flood storage capacity of certain existing open space lands and surface waters by means of proper wetlands management techniques, where hydrologically appropriate.

c) Encourage on-site compensatory storage in new development.

### 3) Goal - Give Form to the Area and Provide Linkages

The Alewife Study Area is made up of a number of different open space elements interspersed among other land uses such as industry, offices, and transportation facilities. The area is also traversed by roads and railroad tracks. The result is that the open space elements do not work together as a system and do not relate well to the other surrounding land uses. The open space areas are difficult to perceive and to reach, so the value of these areas cannot be fully realized. An important goal of the study is to tie the open space elements together and to link them with the other surrounding land uses.

Objectives

a) Use indigenous and natural landscaping whenever feasible, in order to tie open space elements to each other and to the surrounding uses visually.

b) Provide pedestrian and bicycle paths where feasible to physically link open space areas with each other and with surrounding uses.

c) Enhance existing views and vistas for pedestrians, motorists, workers, commuters and residents.

d) Integrate major automotive routes into the open space system by means of compatible landscaping.

### 4) Goal - Integrate Public and Private Open Space

Some of the open space elements such as the Alewife Brook Reservation are publicly-owned. Others, such as Jerry's Pond and the Mugar site, are in private ownership. Land does not have to be publicly-owned in order to contribute to the overall open space system. Although there are issues of security and limiting access when dealing with privately-owned land, such land can be visually integrated into the overall system. There are also opportunities for integrating public and private open spaces at the point where they connect. Private open spaces in the vicinity of public lands can relieve some of the burden of intensive use of publicly-owned areas. Public open spaces also enhance the value of those that are privately-owned. An open space plan which includes guidelines for site design and landscaping can help private developers design facilities that are more sensitive to the public open space objectives.

Objectives

a) Encourage private efforts to enhance the appearance and hydrologic functioning of water bodies in private ownership through the use of landscaping, grading and hydrologic improvements appropriate to the characteristics of the water body. This can be done by distributing the plan to private developers and municipal officials.

b) Provide design guidelines which employ indigenous and natural landscaping elements, similar to those used in the publicly-owned lands where environmentally feasible.

c) Encourage public review of site development affecting privately-owned open spaces for sensitivity to the public open space areas.

d) Provide access between public and private open spaces where appropriate.

## 5) Goal - Provide For Needed Active Open Space Uses Where They Will Not Impinge on the Natural Environment

The open space uses within the Alewife Study Area are quite varied and present an opportunity to provide passive recreation areas as well as conservation land in its natural state. The various types of open space land are best suited for particular uses. An open space plan must take these differences into account when various types of recreation areas are being designated. It is important to recognize that planning for the preservation of natural open spaces should take precedence over providing for active recreation. There are fewer natural areas suitable for open space preservation than there are for active recreation. These areas must be given priority status for protection.

Within the study area there is a general pattern of land more suited for more intensive activity occurring in the eastern portion of the site and the land suitable to more purely conservation uses in the western portion. One of the goals of this study is to provide more intensive public use where it will not damage or disturb the wilder, natural character of the Reservation.

### Objectives

a) Locate more intensive public uses in areas where land has already been disturbed and where access is relatively good for those who will use the facility.

b) Locate more intensive public uses in areas where indigenous vegetation and wildlife habitats will not need to be disturbed.

c) Designate less intensive public use to be in the more undisturbed locations.

## III. INVENTORY AND ANALYSIS OF COMPONENTS

### A. INTRODUCTION

This section will describe the open space elements within the study area. The inventory section will cover the following items: location, size, access, ownership, legal constraints, hydrology, topography, soils, vegetation and wildlife. The analysis section will discuss the existing uses of these open space areas, currently proposed uses and the general character of the area. The potential open space uses will then be evaluated in light of the natural features and the built environment.

As mentioned in Section I, the focus of this plan is on the open space elements within the study area. The plan will not directly address the other land uses. However, it is important to have a general understanding of the nature of these other uses, due to the fact that they have an impact on the open space; therefore, they will be briefly discussed in this section.

There are nine distinct open space elements within the study area which will be discussed. Several of these have been broken down into sub-components for the purposes of analyzing their potential open space uses and for developing plan alternatives. The nine elements are summarized in Figure III-A and located on Figure I-B. In addition to these nine, there are two other open space sites which are not within the study area but which deserve to be mentioned because of their proximity to the Alewife area.

They are as follows:

a) The Fresh Pond Reservation is a 155 acre parcel of land surrounding the 151 acre Fresh Pond Reservoir. The property is located south of Concord Avenue and is owned by the City of Cambridge. The land is open to the public for hiking and jogging and includes a golf course. The Reservoir is approximately 2/5 of a mile from the intersection of Rindge Avenue and Alewife Brook Parkway.

b) The other area is also in the City of Cambridge. It is the 55 acre site of the former Cambridge City Dump, located east of Alewife Brook Parkway between the Boston and Maine Fitchburg Branch Right-of-Way and Concord Avenue. The City has plans to convert the unused site into a city-wide athletic complex. The property is approximately 2,000 feet southeast of the study area.

These locations will not be further discussed in this report.

### B. INVENTORY OF OPEN SPACE ELEMENTS

#### 1. The Alewife Brook Reservation

The 95 acre Alewife Brook Reservation is the largest of the open space elements within the study area and is owned by the MDC. The reservation is a long, narrow piece of land on both sides of the Little River. It begins at, and includes, Little Pond on the west and continues east to the

## Open Space Elements Within the Study Area

| Name | Location | Acreage | Type of Open Space | Ownership |
|---|---|---|---|---|
| 1) Alewife Brook Reservation | Arlington, Belmont, Cambridge | 95 | | Public |
| a) Yates Pond | | | Vacant | |
| b) East | | | Conservation | |
| c) West | | | Conservation | |
| 2) Arthur D. Little | | | | Private |
| a) Wetlands | Cambridge | 9.7 | Conservation | |
| b) Uplands | Belmont, Cambridge | 13.9 | Vacant | |
| 3) Blair Pond | Cambridge | 7.09 | Vacant | Private |
| 4) Mugar Site | Arlington | 17.3 | Vacant | Private |
| 5) Jerry's Pond | Cambridge | 3.5 | Vacant | Private |
| 6) Magnolia Playground | Arlington | 3.5 | Active | Public |
| 7) Thorndike Field | Arlington | 7.8 | Active | Public |
| 8) Russell Field | Cambridge | 9.8 | Active | Public |
| 9) Alewife Brook Parkway | Arlington, Cambridge | NA | Passive | Public |

Figure III - A

Alewife Brook Parkway/Route 2 intersection. The reservation is bordered by the lands of Arthur D. Little Company (ADL) on the north and the Boston and Maine Railroad's Bedford Branch and Freight Cutoff on the south. The MDC for some years had leased two separate parcels totaling 7.9 acres to the Arthur D. Little Company. These leases have expired although the 4.7 acre piece immediately east of the ADL buildings is still used for parking. For the purposes of this plan, the reservation can be divided into three descriptive sections as follows:

Yates Pond - Yates Pond is located on a triangular piece of land between Route 2, the Alewife Brook Parkway and the alignment of the future access ramps to the MBTA Parking Garage. It can be reached through the T Station or through ADL property.

Reservation East - This area includes the land west of the Bedford Branch, north of the Freight Cutoff, south of Route 2 and east of the western edge of the ADL parking area.

Reservation West - This area is bound by ADL property on the north, the Freight Cutoff on the south, and residential areas to the west and southwest. It also includes Little Pond, Little River and the MDC skating rink.

The eastern portion of the Reservation and Yates Pond can be reached by walking through the T station and across ADL property. Access to the Reservation West is limited. There are no roads through the Reservation and access is usually by foot through private property or by walking along the railroad tracks.

The portion of the Reservation within the Town of Belmont is zoned R (General Residence) which allows for single and multi-family development. The Reservation within the City of Cambridge is zoned OS (Open Space). This zoning district allows public parks, recreational facilities, cemeteries, some local government uses and certain religious uses. The portions of the Reservation which are wetlands come under the regulations of the Wetlands Protection Act. This act is administered by local conservation commissions.

The disposition of land by the MDC is governed by Article 97 of the State Constitution. This article states that land which the Commonwealth of Massachusetts has acquired for recreation, conservation or other open space uses cannot be disposed of unless disposition is authorized by a law enacted by a two-thirds vote of the General Court.

The natural environment of the Alewife Reservation was studied in detail in conjunction with the preparation of the Environmental Impact Statement (EIS) for the MBTA Red Line Extension in 1977. Much of the information in this section is taken from the EIS.

## Hydrology

The wetlands and water bodies of the Alewife Reservation and other open spaces within the study area serve a very important function in protecting water quality and alleviating flooding problems. The hydrology of the area is an important element in protecting the natural environment of the reservation. The hydrology of the Reservation has been studied in great detail in previous reports, and it was not within the scope or budget of this open space planning effort to duplicate or expand on these studies. A complete list of hydrological studies which were utilized in this report can be found in the bibliography.

The Alewife Brook watershed is part of the Mystic River Basin and consists of 8.1 square miles. It drains portions of Arlington, Belmont, Cambridge and Somerville. Alewife Brook originates in Cambridge and flows northward into the Mystic River in Arlington. The other major watercourses in the watershed are the Little River, Wellington Brook and Winn Brook. Wellington and Winn Brooks are composed of open channels as well as underground culverts. Both brooks carry storm water through Belmont and empty into Little River. There are four major impoundments connected to Alewife Brook; two of these (Little Pond and Blair Pond) are within the study area while Spy Pond and Clay Pit Pond are outside of it. The Alewife Brook channel is very flat, falling only 1 1/2 feet between Little Pond and the Mystic River.

The Reservation and the surrounding areas have a history of flooding, which in this area is caused by several factors. The surficial deposits along Alewife Brook are underlain by an impermeable layer of clay, and this clay layer causes the water table to remain close to the surface, within 6-10 feet. Coupled with the increase in paved areas due to urbanization and industrial development, this causes much of the rain to run off directly into the brook. Flooding is also affected by the flat slope of the brook channel and channel constriction due to sedimentation and debris. Another major factor is the backwater effects from the Mystic River. When the water level in the Mystic River Basin rises, Alewife Brook cannot flow into the basin and backs up, resulting in flooding in the lowlying floodplain. The situation is particularly severe upstream of Route 2.

Alewife Brook and Little River both have a high degree of organic pollution. Both streams are designated by the state as Class C waters, suitable for boating, secondary water contact recreation, wildlife and fish habitat and industrial uses. Oxygen levels are low because of the decomposition of organic matter and the lack of aeration due to sluggish flows. Sewage contributes to excessive plant growth. Other pollutants include oil, de-icing salts and industrial effluents.

## Topography

The Reservation is primarily flat with only slight rises of 10' or less.

### Vegetation

The major factor affecting vegetation in the Alewife Reservation is the level of groundwater and degree of soil moisture. The major vegetative communities are wetland in nature. Within the reservation, four classes and seven subclasses of freshwater wetlands have been identified (See Appendix B). Another characteristic of the area is the successional nature of the vegetation. These communities are still evolving and have not reached their final form.

Vegetation at the Yates Pond area has been disturbed because of its use as a staging area for equipment during construction of the MBTA station. The dominant vegetation throughout the Reservation consists of cattail marshes, buttonbush shrub flats, grass meadows and wooded areas of sumac. In the western portion of the Reservation (west of Acorn Park Road) there is a large area of upland species, such as aspen, cottonwood, birch, sumac, black cherry, blackberry and maple.

### Wildlife

The diversity of vegetation, particularly in the western part of the Reservation, provides a rich habitat for wildlife. The EIS analyzed the animal population of the wetlands area and found that the most common birds are the mallard, black duck, pheasant, herring gull, blue jay, chickadee, catbird, warbler, red-winged black bird, grackle and sparrow. The most common mammals include muskrat, mink, raccoon, cottontail rabbit, skunk and several small rodents. The following fish are also found: blue-back herring, alewife, large mouth bass, sunfish, yellow perch and carp.

No rare or endangered species have been identified within the study area. Additional information on wildlife was developed by a local resident, Stewart Sanders.

### 2. Lands Of Arthur D. Little (ADL)

The ADL property is located south of Route 2 and north of the Little River. Access is gained through Acorn Park Road. The open space portion of the property can be divided into the following two sections:

ADL Wetlands - This is a 9.7 acre parcel situated east of Acorn Park Road and west of the existing ADL complex.

ADL Uplands - The uplands consist of 13.9 acres west of Acorn Park Road. It is bordered on the north by the Route 2 access ramps and on the south and west by the Alewife Brook Reservation.

These two parcels are zoned for residential and office development, not open space, but the Wetlands Protection Act may apply to part of the area.

### Hydrology

Both ADL parcels are within the Alewife Brook watershed. The wetlands area contains two bodies of standing water totalling 0.4 acres. The two parcels are within the 100 year floodplain as defined by the Federal Emergency Management Agency (FEMA) study of 1978 and by the Mystic River Comprehensive Hydrology Study prepared for the MDC in 1981. Water quality monitoring done in conjunction with the proposed ADL expansion shows that the wetlands area plays a role in reducing the levels of water pollutants such as chromium, iron, lead, sodium, zinc, phosphorus and nitrogen (Jason M. Cortell, 3-17).

### Topography

The change in elevation on the wetlands parcel is between 3 and 9 feet above sea level. The western portion of the uplands tract contains some steeper slopes.

### Soils

There is no Soil Conservation Service mapping for this area. Two previous engineering soil surveys (Report on Subsurface Soil Conditions, 1966 and Report on Geotechnical Investigation, Acorn Park, 1984 by Haley and Aldrich, Inc.) identified the two main soil types as artificial (urban) fill and wetland mucks.

### Vegetation

On the wetlands portion of the site, emergent wetlands and successional uplands are the dominant vegetative communities. There is also some forested area. The uplands area contains a variety of grasses, hedges and shrubs which have revegetated previously filled areas.

### Wildlife

The wildlife to be found on the two ADL parcels does not differ significantly from the wildlife found on the Reservation.

## 3) Blair Pond

Blair Pond is located south of the Alewife Brook Reservation. The pond and adjacent land is owned by Harvard University. The site is bounded by the Boston and Maine Fitchburg Branch Right-of-Way on the north, the property of A. O. Wilson Structural Company on the east and residential and industrial development to the south and west. It can be reached by walking along the railroad tracks. The pond site is 7.09 acres, and this parcel is zoned for multi-family development.

### Hydrology

The EIS for the Red Line Extension states that, according to the Department of Natural Resources, Blair Pond is essential to flood control in the Alewife watershed. The pond provides needed flood retention capacity. The pond is connected to the Little River by Wellington Brook, which runs out of the pond within a culvert, proceeds under the railroad tracks and then flows into Perch Pond on the Little River.

### Vegetation

The north side of the pond is covered by shrubs, brambles, thistle and trees such as sumac. The western and part of the southern shoreline is forested and also covered by shrubs and grasses.

### Wildlife

The pond offers feeding areas for water-fowl. American kestrels and ring-necked pheasants have been observed in the area. In addition, rabbits, mice and skunks can be found.

## 4) Mugar Site

This 17.3 acre parcel is privately owned. It is located in Arlington north of Route 2 across from the ADL complex. Thorndike Playground abuts it on the east, Route 2 on the south and long-established residential properties on the north and west. The site is zoned for PUD which allows offices, retail, research and development and residential uses. The site was down-zoned to a floor area ratio of 0.8 (from 4.0) by mutual consent in 1982.

### Hydrology

Approximately one-half of the site is located within the 100 year flood-plain. Flooding is sometimes caused by water backing up through a series of culverts under Route 2. Flooding is also caused by the flat channel gradient of Alewife Brook and backflow from the Mystic River. The site is composed primarily of slowly permeable surface materials and normal rains can cause perched pockets of water on the site.

### Topography

Elevations on the site range form 3 to 13 feet and the topography is irregular.

### Soils

The surface layer consists of peat and organic material.

### Vegetation

The site is primarily disturbed upland fields with low scrub vegetation. The corners of the parcel are more densely wooded. Typical plants found on the site include reed-grass, purple loosestrife, blue-joint grass, steeplebush and soft rush. There are two wetlands areas which are caused by perched water conditions. The third wetlands area is a shrub swamp which discharges to the south under Route 2.

### Wildlife

The site is not a significant habitat area.

### 5) Jerry's Pond

This man-made pond is an old clay pit at the northeast corner of the intersection of Alewife Brook Parkway and Rindge Avenue. The property is owned by the W.R. Grace Company and is adjacent to Russell Field. Access to the pond is partially cut off by a six foot chain link fence. The depth of the pond varies but it is 30 feet at its deepest.

### 6) Russell Field

This 9.8 acre site is owned by the City of Cambridge and is used as a playing field. It is located south of the W.R. Grace Company and north of Rindge Avenue. Access is through local streets to the east and south of the property.

### Natural Features

A small portion of the site is within the 100 year floodplain. The topography of the site is flat. Because the site has been developed for active recreation, little of the original vegetation remains. No soils information is available for this site. The area is not a significant wildlife habitat.

### 7) Magnolia Playground

This is a 3.5 acre neighborhood playground owned by the Town of Arlington. It is located on Magnolia Street. The playground is within the 500 year floodplain and is drained by a storm sewer which runs into Alewife Brook.

### 8) Thorndike Playfield

This property is also owned by the Town of Arlington. It is a 7.8 acre active recreation site located adjacent to the Mugar site. It is bounded by Margaret and Edith Streets to the north, the tracks of the former Boston and Maine Lexington Branch to the east and Route 2 to the south. Access is provided by local streets and there is an unpaved road and parking area on the eastern border.

Natural Features

Most of the site is grass covered. There is a dense row of trees which provide a visual barrier to Route 2. The playfield is partly within the 100 year floodplain and is hydrologically connected to Alewife Brook. Flooding occurs during heavy storms. Vegetation and wildlife are not significant.

### 9) The Alewife Brook Parkway

The Parkway extends from Concord Avenue in Cambridge to the Mystic Valley Parkway in Somerville. The portion within the study area extends from Concord Avenue to the intersection with Route 2 at the Dewey-Almy Circle, a distance of approximately three-quarters of a mile. It is a four lane road with numerous curb cuts providing access to adjacent commercial uses.

Although the parkway itself is under the jurisdiction of the MDC, development in the parkway corridor is governed by a Parkway Overlay District of the City of Cambridge zoning ordinance. The road is also State-designated Routes 2 and 16. The purpose of the Cambridge district is to ". . . augment base zoning regulations in designated areas in order to create unified, identifiable images of designated areas, to enhance public safety by reducing visual confusion and haphazard development, to encourage development which will protect and enhance the use and enjoyment of public open space resources." (Section 11.62, City of Cambridge zoning ordinance).

## C. INVENTORY OF OTHER LAND USES

The emphasis of this plan is on preserving and enhancing the open space areas at Alewife. However, there are many other varied land uses within the study area which affect the current use and future of the open space area. These land uses will be discussed below.

### 1) Arthur D. Little

The ADL property consists of 35.2 acres of land owned by ADL and 4.3 acres leased from the New England Mutual Life Insurance Company. An additional 7.9 acres were leased from the MDC. This lease is no longer in effect although ADL still pays for and uses a 4.7 acre parcel for parking. The facilities include eight major buildings of from 1-5 stories in height. There is parking for 1,039 cars in 4 separate lots. There are approximately 1200 employees in this major consulting, research and development firm. In 1984, ADL proposed an expansion on 7.5 acres located west of the existing office complex. The plan called for construction of a three story building with a footprint of 65,000 square feet and additional parking for 1,218 cars. The expansion was proposed in order to consolidate existing operations and to provide for anticipated growth. The company's request to the Department of Environmental Quality Engineering for a Superseding Order of Conditions under the Wetlands Protection Act was denied. The status of the expansion proposal is uncertain at this time although a modified proposal may be submitted.

2) The Alewife T Station - The Alewife Station of the MBTA's Red Line is located at the northwest corner of the intersection of Alewife Brook Parkway and the Rindge Avenue Extension. The station and the 2,000 car parking garage were opened in 1985. Access to the station and garage is by means of the Rindge Avenue Extension.

The peak hour traffic volumes in this area are a major obstacle to the optimum functioning of the new station. Long-term improvements to Route 2 and permanent access to the garage are currently being studied. An earlier interim access study has been completed and construction of interim access ramps and short-term road improvements is currently underway. The interim status could, however, last 10 to 15 years.

The interim access project consist of the following: an inbound ramp will be constructed from Route 2 and will then follow the alignment of the MBTA Lexington Branch Right-of-Way to the garage inbound drum. The outbound ramp will leave the garage and follow the alignment of the Fitchburg Freight Cut-off skirting the edge of Yates Pond, crossing Alewife Brook Parkway and cutting across a portion of the W.R. Grace property. From there it will curve out to rejoin Alewife Brook Parkway at a signalized intersection which will replace the rotary.

3) W.R. Grace - This site is located east of Alewife Brook Parkway and north of Whittemore Avenue. A preliminary development plan calls for the construction of 900,000 square feet of office space in 8 or 9 buildings. Jerry's Pond will be incorporated into the development. There may be some alterations in the shape of the pond so that it can become a more visible and attractive feature of the site.

## D. ANALYSIS OF OPEN SPACE ELEMENTS

### Introduction

The next step after inventorying the natural and man-made features of the open space elements is to evaluate the potential uses of these areas. In order to do so, it is helpful to have some understanding of the different types of open space uses. It is also necessary to establish site evaluation criteria based on the goals and objectives. The purpose of these criteria is to help identify those sites which best meet the goals and objectives of the plan. These evaluation criteria are then applied to each site to identify the most appropriate uses.

### Types of Open Space

There are four major categories of open space. The purpose of classifying different types of open space is to provide some framework for understanding the issues involved in planning for, and improving, these areas. In reality, these four categories form a continuum rather than four separate entities. The four categories are briefly described below:

Active Recreation - Playfields, playgrounds and highly managed areas devoted to relatively organized activities and sports such as ball games, track, tennis, swimming, etc. These areas are intensively used and require more equipment and site improvements than other types of open space areas.

Passive Recreation - Areas devoted to quieter, less intensive activities such as walking and hiking. These areas have a more natural appearance than active recreation areas and are less developed.

Conservation Land - Areas whose principal purpose is the preservation of land in its natural state for its own sake or for nature study, hiking, or wildlife habitat or flood control. These areas are usually not managed intensively and have fewer site improvements.

Vacant Land - This is land which is simply not developed. Some vacant land may have potential for open space or recreational uses.

There are several other types of open space areas which do not fit easily into these categories. These are water bodies and water courses, paths and trails, and urban plazas.

Each type of open space has different characteristics which need to be taken into consideration during the planning process. The following is a brief description of those characteristics which determine the suitability for these different uses for the three categories with which this plan is primarily concerned.

Active Recreation - These areas need good access (street and public transportation), parking, proximity to population centers and utilities.

Passive Recreation - These areas are characterized by their natural qualities, although these natural qualities may have been altered by man. The presence of water bodies, good views and vegetation is important.

Conservation Land - Natural features are the most important element. They include plant diversity for wildlife habitat, water bodies and wetlands. These areas are generally larger than active or passive recreation areas and should be relatively isolated and undisturbed. Access should be more limited.

## Site Evaluation Criteria

The preceding characteristics for evaluating open space uses represent a general approach. In order to refine this approach it is important to return to the goals and objectives of this study to derive site evaluation criteria which will help to achieve those goals. The following site evaluation criteria have been developed to aid in the analysis of the potential open space uses of the areas involved in this study.

1) The Degree and Diversity of Vegetation - Vegetation is an important factor in both the aesthetic quality of an open area and as an important determinant of its value as a wildlife habitat.

2) The Degree to Which the Site is Isolated or Undisturbed
This criterion is important for two reasons. The feeling of isolation is one of the qualities which people seek out when visiting open space areas. It is also a factor in promoting a richer wildlife habitat. Isolation can be achieved both by distance and by the presence of barriers which act as a buffer from urban influences.

3) The Degree to Which the Site is Wet or Serves as a Flood Storage Area Flooding in the Alewife Study Area is a major problem. Therefore, sites need to be carefully evaluated on the basis of their flood storage capacity so that these sites can be preserved accordingly.

4) The Degree to Which a Site Serves as a Connecting Element in the Open Space and/or Transportation/Circulation Systems - One of the goals of the study is to tie individual open space elements together and to link them with surrounding land uses.

5) The Degree to Which the Site is Developable from the Regulatory and/or Ownership Point of View - This criterion relates to one of the study assumptions rather than a goal. This assumption stated that the study would, for the most part, take existing regulations and approved development plans as given. This is particularly the case where money has been expended or construction has begun. However, it may be appropriate to recommend changes in plans or regulations which have a direct impact on open space protection.

## E. SITE SPECIFIC ANALYSIS

### 1) Alewife Brook Reservation

Yates Pond - The proximity of Yates Pond to the T Station and interim access ramps (now under construction) has altered the original character of this site. The transportation uses in this area are clearly dominant and preclude use of this site for purely conservation purposes. Much of the vegetation has been disturbed due to use of the site as a staging area during construction of the T station. The area is highly accessible to pedestrians, commuters and other activities. The pond itself enhances the appearance of the site and with some landscaping and planting, could serve as a focal point for limited passive recreation. The pond also provides storage capacity for stormwater run-off.

Reservation East - This area is also influenced by transportation uses such as the interim access ramps and its proximity to other development. A portion of the site was leased by ADL. This lease is no longer in effect although ADL still pays for, and uses this area for parking. The area is easily accessible. This section contains those types of vegetation which are considered indicators that the site has been disturbed. An analysis of the various factors that contribute to wildlife habitat indicate that this area has a low habitat value. This is due to a low level of vegetative diversity and proximity to development. Because the area has already been somewhat disturbed and is not a prime wildlife habitat, its conservation value is limited, except for wetlands preservation. However, its accessibility and the presence of vegetation and water (the Little River) make it desirable for limited passive recreation which would allow workers and visitors to the area to walk along the river.

Reservation West - The western portion of the Reservation is the most isolated and undisturbed of all the open space elements. There are no programs or activities organized by the MDC but the area is used for hiking, birdwatching, canoeing and nature study on an informal basis. There are dirt trails which were created through use rather than by design. The vegetation in this part of the Reservation is more abundant and varied. The diversity of vegetation and the site's isolation make this a prime wildlife habitat. The area also contains extensive wetlands. For these three reasons, conservation should be considered its primary and most appropriate use.

The vegetation, wildlife and isolation are also the reasons which make exploring this area a unique experience for visitors who have the opportunity to feel removed form the urban atmosphere. However, public access to the Reservation West must be limited so that overuse does not destroy these conservation values.

2. Lands of Arthur D. Little

Much of the uplands area abuts the Reservation West but is not under MDC jurisdiction. It is currently unused for any recreational activities. Although it is adjacent to Acorn Park Road and subject to some intrusion by traffic along that road, it is a good wildlife habitat because of its vegetative diversity. It is not a significant area for flood storage. The site does have some potential for development which would intrude on the wildlife.

The wetlands area is tightly situated in between Acorn Park Road and the existing development at ADL. It has a moderate degree of vegetative diversity but lacks the isolation necessary to make it a significant wildlife habitat. The areas' wildlife potential could be improved through planting and management. The area does not abut the Reservation to any significant degree and is isolated from the Little River corridor by Acorn Park Road. The area is relatively undisturbed and is significant for flood storage.

3) Blair Pond

This site is owned by Harvard University but is not being used for any recreational or educational purpose. The property has been for sale on the open market for approximately one year. The property's residential zoning will be the determining factor in its future development.

4) The Mugar Site

The Mugar Site in Arlington is currently undeveloped, open land with some vegetation and wetlands. It abuts a residential area and a major road (Route 2). Because it lacks diverse vegetation and is not isolated, it has little value as conservation land. It is more appropriate to consider its suitability for active and, to a lesser degree, passive recreation. It is located close to a population center and the development of recreational facilities would not be impinging on any undisturbed natural areas. However, it is also close to other active recreation sites and therefore, may not be a high priority site for providing additional recreation facilities. It does, however, provide a buffer between residential development and Route 2.

The site's location and access also make it desirable for development and there have been many proposals for the property. The current proposal is for an office building with 330,000 square feet of space.

5) Jerry's Pond

The pond is located in a highly developed area which retains very little of its natural features. It is currently fenced in as a safety precaution. The only real conservation value of the pond is as a flood storage area. The pond is on private property which is being proposed for the development of office buildings. This development will incorporate the pond and will include landscaping to make it more attractive.

6,7,8, - Russell Field, Magnolia Playground and Thorndike Playfield

These three sites are well established active recreation facilities whose functions have proven through public use to be appropriate to the areas on which they are located.

9) Alewife Brook Parkway

When the Alewife Brook Parkway was first created, it was designed to be a scenic road within a park-like setting. The intent was to create roads that also functioned as linear open spaces. Over the years, as traffic volumes increased and commercial development took place along the parkway, it lost many of its park-like qualities.

The Alewife Brook Parkway is the major connecting element in the open space system. It is the only portion of the area's open space that many people will have a chance to experience as they drive through the area. Landscaping will be necessary to create a more strongly identifiable open space character. The haphazard development along the parkway detracts from the view and creates visual confusion and severe safety problems for motorists. Landscaping can also help to overcome this by providing a buffer and by creating a more unified visual image. It is beyond the scope of this plan to evaluate the road improvements which would be necessary to improve the safety and functioning of this road.

Another problem with the Parkway is that it acts as a barrier for pedestrians who try to approach the T station and the Reservation from the east. Since the parkway is the major connecting element in the open space system, it should be the focal point for connecting walkways and bikeways.

# IV PREFERRED OPEN SPACE PLAN

## A. Introduction

The inventory and analysis of the open space elements in the preceding chapter was done in order to understand the potential opportunities and problems in developing an open space system in the Alewife Study Area. The analysis indicates the uses for which the open space areas are suitable. The next step in the development of an open space plan is to determine how those areas can be linked together to achieve the goals and objectives of the study.

## B. The Preferred Open Space Plan

The Preferred Open Space Plan presented in this report is a series of recommended actions concerning the public and private open spaces within the Alewife Study Area. The format of the plan has been designed to protect open space and reflects the nature of the development process in the study area. Development in this region is characterized by numerous state, regional and local agencies and private developers, as well as a number of projects which are in varying stages of planning and implementation. Therefore, the plan must utilize two approaches: (1) the traditional method of specific recommendations concerning land acquisition and site improvements and, (2) a less direct approach which makes use of existing regulations and the development review process.

The following description of the Preferred Open Space Plan begins with recommendations for land acquisition and site improvements on publicly-owned lands. It then discusses how the open space objectives of the plan can be achieved on privately-owned lands through the use of existing regulations and the development review process. To achieve the open space objectives of this plan on privately-owned lands, guidelines for regulatory review of private development have been provided (see Figure IV-B(1). The third section of the plan discusses how to connect all the public and private open space elements with a system of paths and improvements to the Alewife Brook Parkway. These recommendations are summarized in Figure IV-A and shown in Figure IV-B.

### 1) Land Acquisition

#### a) Expansion of the Reservation

Recommendation - It is recommended that the Reservation West be expanded by the fee simple acquisition by the Metropolitan District Commission of the uplands owned by the Arthur D. Little Company. The uplands would not be developed or disturbed in any manner and accessibility would be limited, thereby ensuring that it will continue to function as a wildlife habitat area and as a buffer for the more remote interior portions of the Reservation.

## Preferred Open Space Plan Summary

| RECOMMENDATIONS | Priority/ Impact On Open Space System | Priority Based on Timing | Responsibility | Comments |
|---|---|---|---|---|
| A. Acquisition | | | | |
| 1) Expand Reservation through Acquisition of ADL Uplands | High | Short-range | MDC | Process should be started because of time needed for appraisals, negotiations, MDC authorization and development pressure in the area. |
| B. Site Improvements | | | | |
| 1) Reservation Riverway Park - Phase I | Medium | Mid-range | MDC | Land is secure so no immediate action required. |
| 2) Reservation Riverway Park - Phase II Easterly Parking Lot Site Restoration | Low | Long-range | MDC | Depends on phase-out of parking lot. |
| 3) Restoration of Reservation Under and Near Interim Access Ramps | High | Short-range | MDPW | Project is underway. |
| 4) Limited Passive Recreation Improvements - Yates Pond | Medium | Short-range | MDC/MDPW | Can be added at any time. If done now, may be able to include as part of interim access package. |
| C. Preservation and Enhancement through Regulations and the Project Review Process | | | | |
| 1) Protect ADL Wetlands through Enforcement of Existing Regulations | High | Long-range | City of Cambridge | Will be an on-going process. |
| 2) Blair Pond Sale with Conditions | High | Short-range | Harvard University<br>City of Cambridge | May already be too late if Harvard University has talked to interested buyers. Will require several months of work before sale conditions can be established. |
| 3) Blair Pond - Sale As Is | High | Long-range | Harvard University<br>City of Cambridge | Review process will take place regardless of any specific actions. |
| 4) Jerry's Pond - Review of Final Development Plans | Medium | Mid-range | Private Developer | Review process will take place regardless of any specific actions. Project is still in early stages. |
| 5) Mugar Site - Review of Final Development Plans | Low | Mid-range | Private Developer | Not a major open space element; is peripheral to open space system. Developer has agreed to paths. |
| D. Pathway and Road System | | | | |
| 1) Arlington Pedestrian/Bike Path | High | Mid-range | MDPW | Minuteman Bikeway proposal may be starting up soon so may not need to push. |
| 2) Russell Field/Linear Park | Low | Short-range | MBTA | Project is underway. |

Preferred Open Space Plan Summary

| RECOMMENDATIONS | Priority/ Impact On Open Space System | Priority Based on Timing | Responsibility | Comments |
|---|---|---|---|---|
| 3) Path from T Station to/ around Jerry's Pond | Low | Long-range | Private Developer | Not a major connection in the open space path system. |
| 4) Mugar Site Pedestrian Paths | Low | Long-range | Private Developer | Developer has agreed to provide paths. |
| 5.) Parkway Pedestrian/Bicycle Paths | High | Mid-range | MDC,MDPW | Evaluation process is underway. |
| 6.) Fitchburg Freight Cut-Off to Belmont. | Medium | Short-range | MBTA | Project is underway. |
| 7) Path to Thorndike Street | Low | Short-range | MBTA | Project is underway. |

Figure IV-A

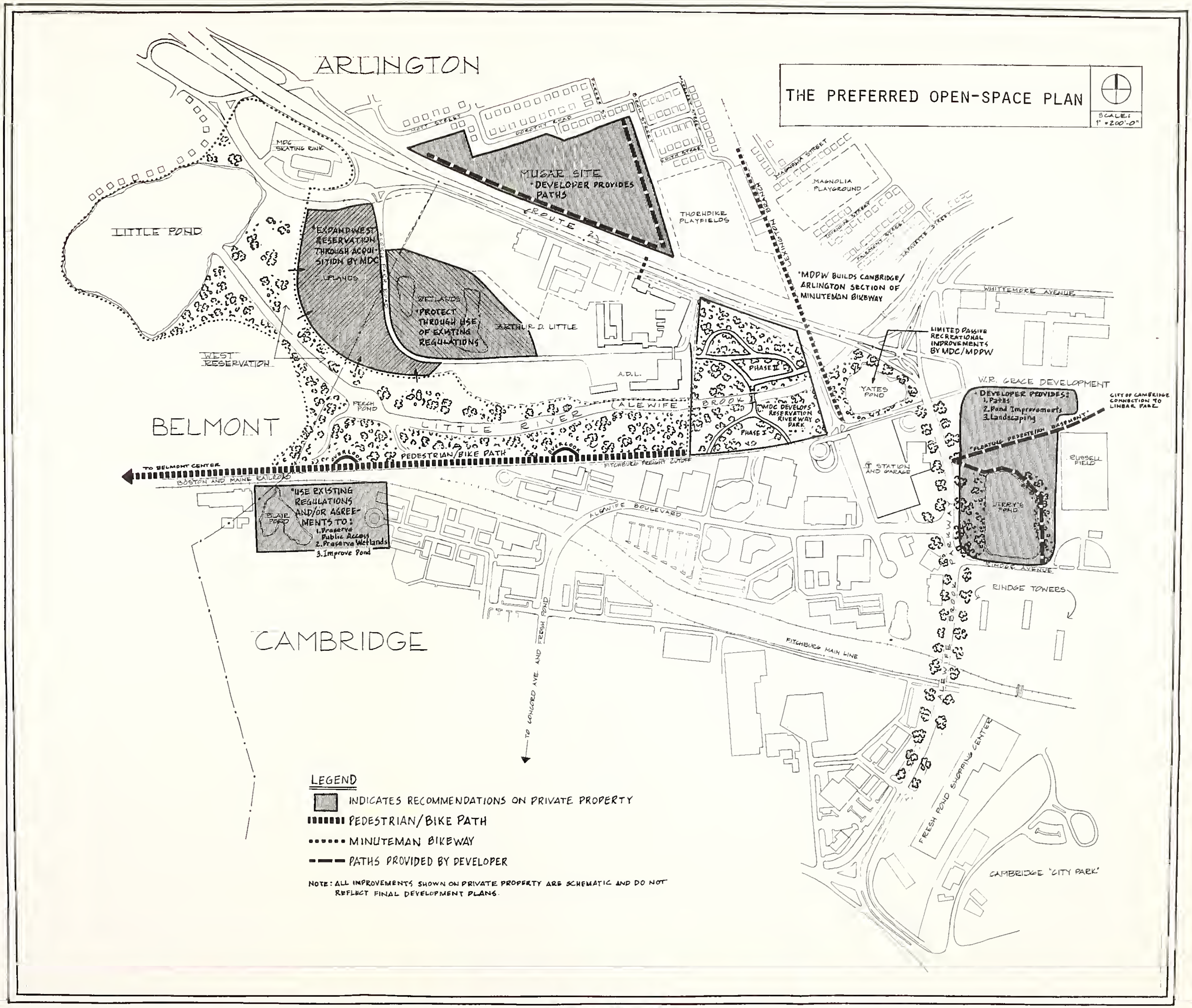

THE PREFERRED OPEN-SPACE PLAN
SCALE: 1" = 200'-0"
ARLINGTON
BELMONT
CAMBRIDGE
LITTLE POND
MDC SKATING RINK
WEST RESERVATION
*EXPAND WEST RESERVATION THROUGH ACQUISITION BY MDC
UPLANDS
WETLANDS
*PROTECT THROUGH USE OF EXISTING REGULATIONS
ARTHUR D. LITTLE
A.D.L.
MUSAR SITE
*DEVELOPER PROVIDES PATHS
MOTT STREET
DOROTHY ROAD
ROUTE 2
THORNDIKE PLAYFIELDS
MAGNOLIA STREET
MAGNOLIA PLAYGROUND
LEXINGTON BRANCH
*MDPW BUILDS CAMBRIDGE/ARLINGTON SECTION OF MINUTEMAN BIKEWAY
WHITTEMORE AVENUE
LIMITED PASSIVE RECREATIONAL IMPROVEMENTS BY MDC/MDPW
YATES POND
PHASE II
PHASE I
*MDC DEVELOPS RESERVATION RIVERWAY PARK
ALEWIFE BROOK
LITTLE RIVER
PERCH POND
OVERLOOK
OVERLOOK
PEDESTRIAN/BIKE PATH
TO BELMONT CENTER
BOSTON AND MAINE RAILROAD
FITCHBURG FREIGHT CUTOFF
W.R. GRACE DEVELOPMENT
*DEVELOPER PROVIDES:
1. Paths
2. Pond Improvements
3. Landscaping
CITY OF CAMBRIDGE CONNECTION TO LINEAR PARK
"FLOATING" PEDESTRIAN EASEMENT
RUSSELL FIELD
JERRY'S POND
T STATION AND GARAGE
RINDGE AVENUE
RINDGE TOWERS
ALEWIFE BROOK PARKWAY
*USE EXISTING REGULATIONS AND/OR AGREEMENTS TO:
1. Preserve Public Access
2. Preserve Wetlands
3. Improve Pond
BLAIR POND
ALEWIFE BOULEVARD
TO CONCORD AVE. AND FRESH POND
FITCHBURG MAIN LINE
FRESH POND SHOPPING CENTER
CAMBRIDGE "CITY PARK"
LEGEND
▨ INDICATES RECOMMENDATIONS ON PRIVATE PROPERTY
▮▮▮▮▮▮ PEDESTRIAN/BIKE PATH
•••••• MINUTEMAN BIKEWAY
▬ ▬ ▬ PATHS PROVIDED BY DEVELOPER
NOTE: ALL IMPROVEMENTS SHOWN ON PRIVATE PROPERTY ARE SCHEMATIC AND DO NOT REFLECT FINAL DEVELOPMENT PLANS.

Figure IV - B

# REGULATORY CONCEPTS FOR MAKING PRIVATE DEVELOPMENT MORE COMPATIBLE WITH OPEN SPACE GOALS

## OBJECTIVE:

**Improved Site Plan Review on Private Development**

- backed by -

**Special Permit Conditions in Certain Zoning Districts**

- to achieve the following objectives -

- ° Creation of perimeter buffers that have sufficient width, screening, landscaping and/or retention of existing vegetation to protect adjacent neighborhoods and open space areas.
- ° Provision for sedimentation collection during construction (particularly when development is in close proximity to open space) as well as permanent drainage improvements that are hydrologically adequate and that are environmentally sensitive.
- ° Creation of pedestrian/bicycle pathways as direct open space links and as non-automotive transportation facilities.
- ° Consideration, where environmentally necessary, of special height and bulk limitations via conditional permitting requirements.
- ° Consideration of similar kinds of requirements and limitations, as needed, in zoning regulations (and possibly in health regulations, subdivision regulations, and other municipal laws).

Figure IV - B(1)

Implementation - The acquisition of the uplands would be the responsibility of the MDC because this action would serve to expand and enhance the Reservation.

## Goals and Objectives

This expansion would fulfill two of the objectives which fall under the goal of preserving open space in an urban area. They are: (#1b) preservation of currently unprotected areas and, (#1d) the maintenance of isolated and undisturbed areas in a natural state.

## 2) Site Improvements

### a) Reservation Riverway Park

Recommendation - The creation of a park for passive recreation along both sides of the Little River on the eastern portion of the Alewife Brook Reservation is recommended. The passive recreational uses for this park would include walking, sitting, picnicking, fishing and other non-intensive uses which do not require extensive site development.

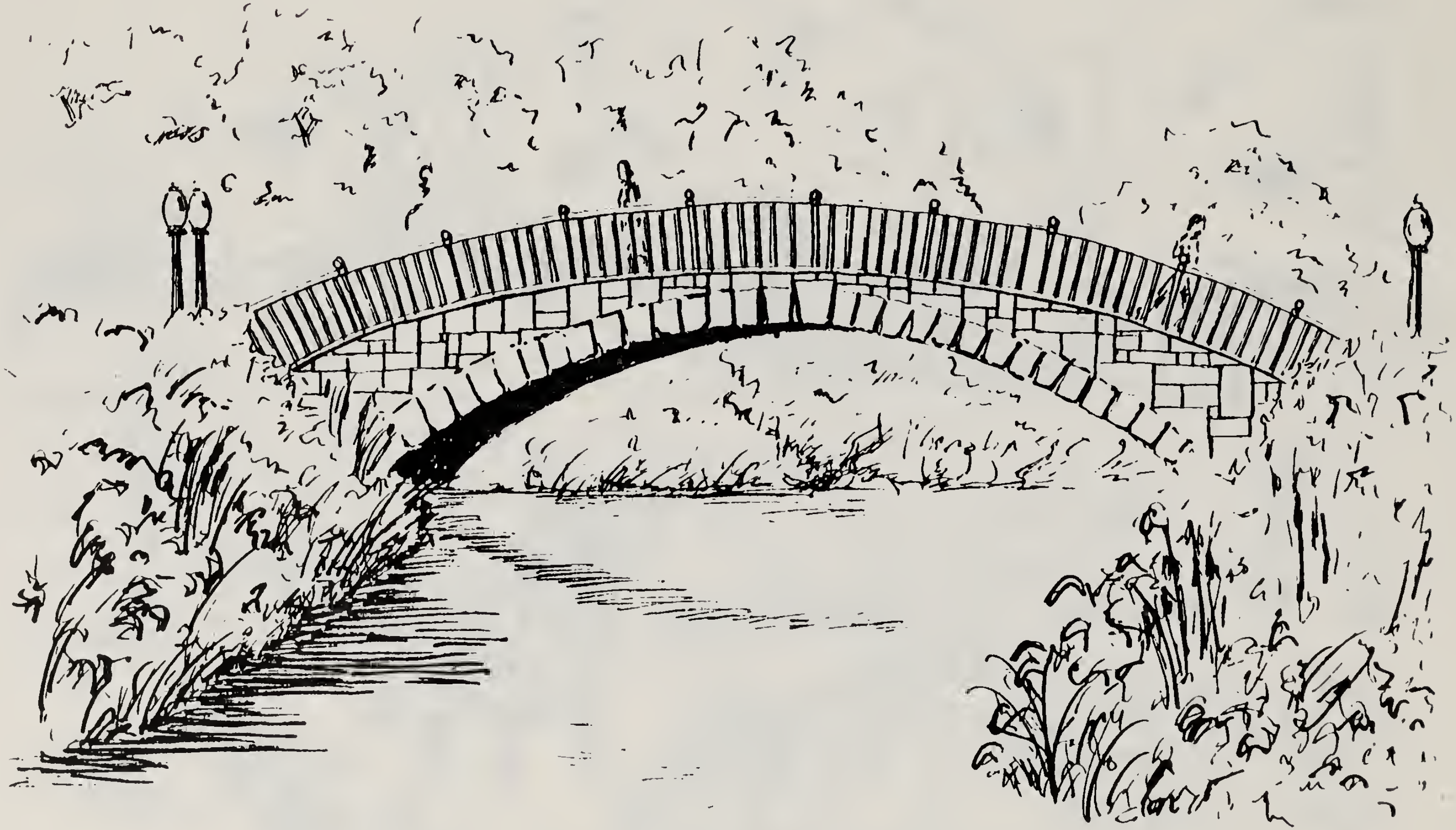
The park would be designed to provide a pleasant, natural setting in which residents, workers and others could enjoy quiet activities along the Little River. There are two different ways to approach the design of this park, both of which provide for the same activities. The difference is in the type of amenities chosen. One approach is to provide the same type of amenities as can be found in the parks of the Emerald Necklace designed by Frederick Law Olmsted. The other approach is to use the less elaborate and more functional furnishings which are more common to urban parks. The difference in the character of these two approaches is illustrated in Figure IV-C (the Olmsted approach) and Figure IV-D (the functional approach.)

The following site improvements would be necessary to develop this park:

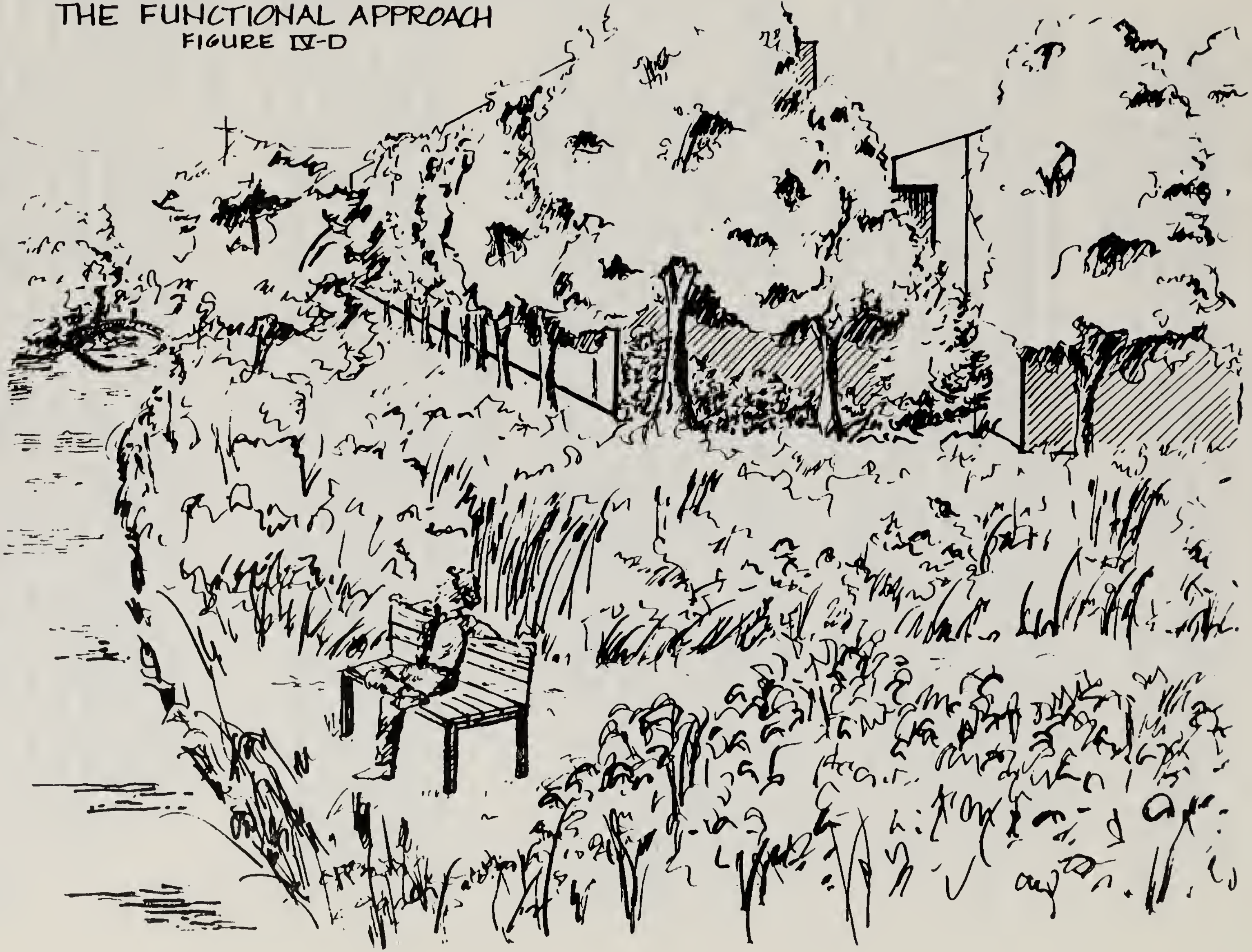
1) Discontinue Use of the Parking Lot - A portion of this site north of the Little River is used for parking by ADL. The development of this park would require that the parking lot eventually be discontinued and that this piece of land revert to open space use. The pavement would be removed and the area would be planted and landscaped.

2) Create a Vegetative Buffer between the Park and the Wetlands - It is the intent of this plan not to disturb existing wetlands. Therefore, there should be a vegetative buffer on the south side of Little River to prevent encroachment on the wetlands areas to the west of the park.

RESERVATION RIVERWAY PARK
THE OLMSTED APPROACH
FIGURE IV-C



RESERVATION RIVERWAY PARK
THE FUNCTIONAL APPROACH
FIGURE IV-D



3) Pathways - A series of winding pedestrian paths should be developed on both sides of the Little River, connected by a footbridge. These paths would be placed only in those areas which are drier and less environmentally sensitive. The paths should be surfaced with crushed limestone.

4) Other Amenities - A variety of other amenities will be needed to round out the park. These include a footbridge over the Little River, benches, water fountains, bike racks, lighting, signs, a small canoe launch or pier for access to the river and picnic tables.

The recommended improvements are shown schematically in Figure IV-E, General Concept for Improvements - Reservation Riverway Park. A more detailed breakdown of capital improvements is given in Figure IV-F Site Improvements - Reservation Riverway Park. This table presents costs which reflect the Olmsted approach. If a simpler wooden bridge and less expensive fixtures (benches, picnic tables, etc.) were substituted, costs could be reduced to approximately $859,830.00. This information is not intended as a final capital improvements program. It is provided as a guide to discussing potential improvements at this site.

Implementation - The agency responsible for the development of this park would be the MDC. The park could be developed in two stages to allow for phasing out the parking lot. Stage I would involve improvements along the riverbank on both sides. Stage II would involve removal of the paved parking lot, planting and landscaping. The MDC will need to consider issues of safety and policing the park consistent with existing procedures for the MDC parks system. If possible, consideration should be given to cooperative agreements with ADL security staff and the local police. The MDC should enact and enforce regulations concerning conduct in the park which are consistent with the nature of the park.

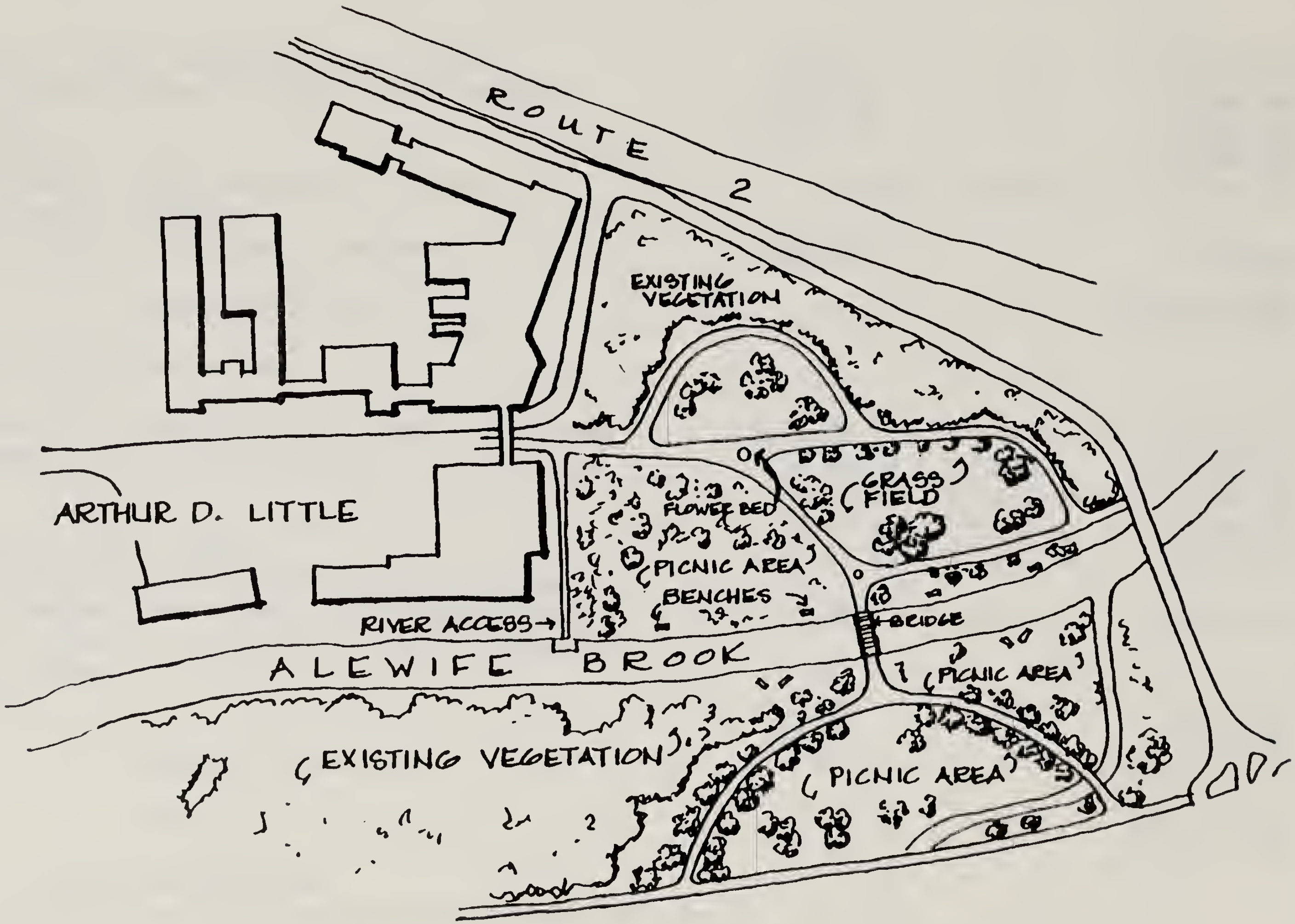
## Goals and Objectives

The establishment of this park would meet the goal (#5 a, b) of providing for more intensive public uses in areas where natural vegetation and wildlife habitats will not be disturbed and which are easily accessible to potential users. It will also help to mitigate flooding by preserving wetlands in their natural state (# 2a). In addition, the removal of the parking lot and landscaping will help to achieve the objective (#3c) of enhancing views.

### b) Yates Pond

Recommendation - The area surrounding Yates Pond is currently being disturbed by the construction of the interim access ramps. When construction is completed, the area will be landscaped according to a landscaping plan developed for the MBTA by the firm of Mason and Frey. This landscaping plan makes use of trees and shrubs such as sumac, dogwood, elder, red chokeberry, brambles, winter berry and sweet fern. The ramp construction plan also includes a pedestrian path along the south side of the pond, parallel to the outbound access ramp.

GENERAL CONCEPT FOR IMPROVEMENTS
RESERVATION RIVERWAY PARK
FIGURE IV-E



## Example of Potential Site Improvements

### Reservation Riverway Park - The Olmsted Approach

| Item | Unit Cost[1] | # Units | Sub Total | Adjusted Total[2] |
|---|---|---|---|---|
| Phase I | | | | |
| 1) Picnic Tables - pine seats and top, 6' long | $580.00 | 3 | $1,740.00 | $1,804.00 |
| 2) Benches - Contour backed, 6' long, steel pedestal | 700.00 | 8 | 5,600.00 | 5,807.00 |
| 3) Stone Bridge | 100,000.00 | 1 | 100,000.00 | 103,700.00 |
| 4) Bridge Lighting | | | 2,490.00 | 2,582.00 |
| 5) Stone Dust Path - 1500 linear feet, 6' wide, 4" deep, crushed limestone | 6.10/sy[3] | 1000 sy | 6,100.00 | 6,325.00 |
| 6) Floating Boat Dock - 15' long, wood deck | 1,240.00 | 1 | 1,240.00 | 1,285.00 |
| Sub-Total Phase I | | | $117,170.00 | $121,503.00 |
| Phase II - Parking Lot Restoration | | | | |
| 1) Remove Trees - 12" diameter, fell, grub, load, dump | $215.00 | 40 | $8,600.00 | $8,918.00 |
| 2) Remove Pavement - 8" thick concrete | 37.10/sy | 17,833 sy | 661,604.00 | 686,083.00 |
| 3) Grading | 3.70 sy | 17,833 sy | 65,982.00 | 68,423.00 |
| 4) Soil Prep - fertilize, till, level | 0.57 sy | 17,833 sy | 10,164.00 | 10,540.00 |
| 5) Lawn - lay sod, roll, water | 2.11 sy | 17,833 sy | 37,627.00 | 39,019.00 |
| 6) Planting - combination of following trees/shrubs Shrubs: Brambles, Sweet Fern, Spice Bushes, Red Chokeberry Trees: River berch, Sumacs, Dogwood, Bayberrys, Elders | 5-20.00 | NA | 15,000.00 | 15,555.00 |
| 7) Picnic Tables | 580.00 | 2 | 1,160.00 | 1,202.00 |
| 8) Benches | 700.00 | 5 | 3,500.00 | 3,629.00 |
| Sub-Total Phase II | | | $803,637.00 | $833,369.00 |
| TOTAL | | | $920,807.00 | $954,870.00 |

1. Materials cost plus installation
2. Inflated to 1986 prices with Consumer Price Index of 3.7%
3. SY=Square Yards

Figure IV-F

In addition to the above-mentioned landscaping, this plan recommends that benches be placed at several points along the path and that the pond area be given a more park-like treatment.

Implementation - Providing these additional amenities would be the responsibility of the MBTA.

## Goals and Objectives

These additional improvements would enhance the areas' potential for limited passive recreation. This is in keeping with the objective of providing for public use in areas where access is good and natural areas will not need to be disturbed (#5a)

3) Preservation/Enhancement through Regulations and the Project Review Process.

a) The ADL Wetlands

Recommendation - The Arthur D. Little Company has submitted plans for expansion which involve encroachment on 1.2 acres of the wetlands. At present, it is uncertain as to whether this proposal will be approved. One of the assumptions of this study is that, in most cases, approved development plans that conform to existing zoning and land use controls would be accepted as givens around which the plan will be developed. Therefore, ADL's expansion onto a portion of the wetlands, if approved, is accepted, although not preferred.

If the current development plan is given final approval, it is recommended that the Wetlands Protection Act and local land use regulations be rigorously enforced to prevent any further encroachment on the remaining wetlands. If the current development plan is not approved, consideration should be given to other methods of preserving the wetlands such as conservation easements or a change in zoning. A conservation easement would permanently preserve the wetlands and would preclude the possibility that any future development might encroach on the wetlands but may involve some costs.

Implementation - Several local government agencies will need to be involved in the preservation of these wetlands. These include the Cambridge Conservation Commission and the Cambridge Department of Planning and Community Development. The Conservation Commission is responsible for implementing the Wetlands Protection Act and could also be the agency which would hold the conservation easement. The Cambridge Department of Planning and Community Development is responsible for reviewing development proposals. The Cambridge City Council would also be involved in approving any zoning changes or easements.

## Goals and Objectives

The preservation of these wetlands would fulfill two of the goals of the study (#1); the preservation of open space in an urban area and, (# 2a) the preservation of wetlands as a means of mitigating flooding.

### b) Blair Pond

Recommendation - Blair Pond and the surrounding residentially-zoned land is currently for sale on the open market. The primary open space and conservation value of this land is for flood control. The appraised value of this land for residential development is sufficiently high to preclude its purchase as open space.

The three open space objectives for the Blair Pond site are as follows:

1. The wetlands should not be disturbed.
2. The capacity of the pond for flood storage should be increased.
3. There should be public access to the pond from the north side near the A.O. Wilson property for eventual connection to a trail along the Fitchburg Freight Cut-Off.

The plan supports the development of this site as a residential property and recommends the following approaches to achieve the open space objectives.

Option #1 - Sale with Conditions - This option involves the sale of the property with development restrictions or conditions which would reflect the open space objectives. This approach takes advantage of the fact that the property is not yet under the control of the final developer and therefore, there are no development plans yet which would need to be altered to meet the open space objectives. This approach also ensures that the open space goals are clear to potential developers early on in the development process.

Option #2 - Use of Existing Regulations - This option involves the sale of the Blair Pond property as is and relies on existing regulations to achieve the open space objectives. This would include enforcement of the Wetlands Protection Act, zoning and the development review process. This approach would allow the developer the flexibility to determine how to meet the open space objectives but does not guarantee that they will be met. Another possibility is to rezone the property to a more restrictive category which would lower its value and make public acquistion for open space/conservation purposes economically feasible.

Implementation - The implementation of Option #1 would require a lead agency to work with the Harvard University Real Estate Department and Cambridge officials to develop the necessary development/conservation restrictions. It would also require some degree of site planning. Option #2 would be implemented primarily by the Cambridge Conservation Commission (for enforcement of the Wetlands Protection Act) and the Cambridge Department of Planning and Community Development.

## Goals and Objectives

The preservation of Blair Pond and the provision for public access are designed to achieve the following goals and objectives of the study: (# 2b) the mitigation of flooding, (# 4a) the enhancement of water bodies through private efforts and, (# 4d) the provision of access between public and private open spaces.

### c) Jerry's Pond

Recommendation - A general conceptual and schematic master plan for the development of this site has been completed by the firm of Monacelli Associates but no detailed design work has been done. The schematic plan for the site includes the following open space elements: improvements to the pond, landscaping and, pedestrian paths to the T station entrance and Russell Field.

This plan recommends that the open space elements of the schematic master plan be endorsed. In order to ensure that the final design of these elements meets the objectives of the plan, the development review process should be fully utilized. It is recommended that in all cases where private development abuts public open space, the developer should be required to provide a landscaped buffer between any buildings and parking areas, and the public open space. This can be accomplished through the site plan review process.

Implementation - The next step in the review process will be the Environmental Impact Report (EIR). It is important that the scope for the EIR includes open space issues. The draft and final EIR's should be reviewed to ensure that open space issues have been adequately addressed. Copies of this plan should be made available to the developer and Cambridge City officials.

## Goals and Objectives

The open space elements to be provided by the developer will meet the following goals and objectives of the plan: (# 2b) enhance the flood storage capacity of surface waters, (# 3c) enhance existing views, (# 4a) encourage private efforts to enhance the appearance and hydrologic functioning of water bodies.

### d) Mugar Site

Recommendation - The current proposal for the Mugar site is for a 7 story, 330,000 square foot office building. The project has received all but one of the permits required. The final curb cut permit will be issued upon completion of the EIR for the permanent roadway improvements at Alewife.

The development proposal for this site is accepted as one of the assumptions of the study. As a condition of receiving a permit from the Arlington Redevelopment Board, the developer has agreed to provide pedestrian paths and landscaping. The current proposal for the site indicates that 6.1 acres will remain in open space.

Implementation - The Arlington Redevelopment Board and the Arlington Department of Planning and Community Development have the primary responsibility for reviewing the final design of this project.

## Goals and Objectives

The provision of pedestrian paths and landscaping will help to achieve the objectives of (# 3b) linking open space areas and, (# 4d) providing access between public and private open space.

## 4) Connecting the Open Spaces

### a) Paths Approved for Construction

A number of pedestrian paths were built at the time of construction of the T station. Additional pedestrian paths will be provided as part of the current construction of the interim access ramps and the restoration of Russell Field. These sidewalks and paths are designed primarily to provide access to the T station, but this system can be expanded to link the major open space elements.

The paths which are currently approved for construction as part of the interim access ramp construction project and Russell Field restoration are shown on Figure IV-G. The major paths are described below.

### 1) Fitchburg Freight Cut-Off to Brighton Street (Belmont)

Most of the paths approved for construction are oriented north-south or are focused on the eastern end of the study area adjacent to the T station and residential/commercial/office development. As part of the interim access ramp project, the MBTA is constructing a stone dust path along the Right-of-Way of the Fitchburg Freight Cut-Off from the T station 2,950 feet west to Brighton Street in Belmont. This path will provide limited access to the Reservation West, Blair Pond and Belmont Center for pedestrians and bicycles.

Recommendation - This plan endorses the construction of this path and recommends that two overlooks be added along this path to provide views of the Reservation. There would be one overlook on the eastern end of the path and one on the western end. These would provide contrasting views as one moves from the more developed to the more natural portion of the study area (Figures IV-H,I). These overlooks will serve to provide enhanced views of the reservation.

Implementation - The construction of the overlooks should also be the responsibility of the MBTA.

### 2) Russell Field/North Cambridge Linear Park

During the construction of the Red Line extension, the MBTA used Russell Field (owned by the City of Cambridge) as a staging area for equipment. The restoration of Russell Field by the MBTA is underway and includes a system of pedestrian paths connecting Russell Field, the T station,

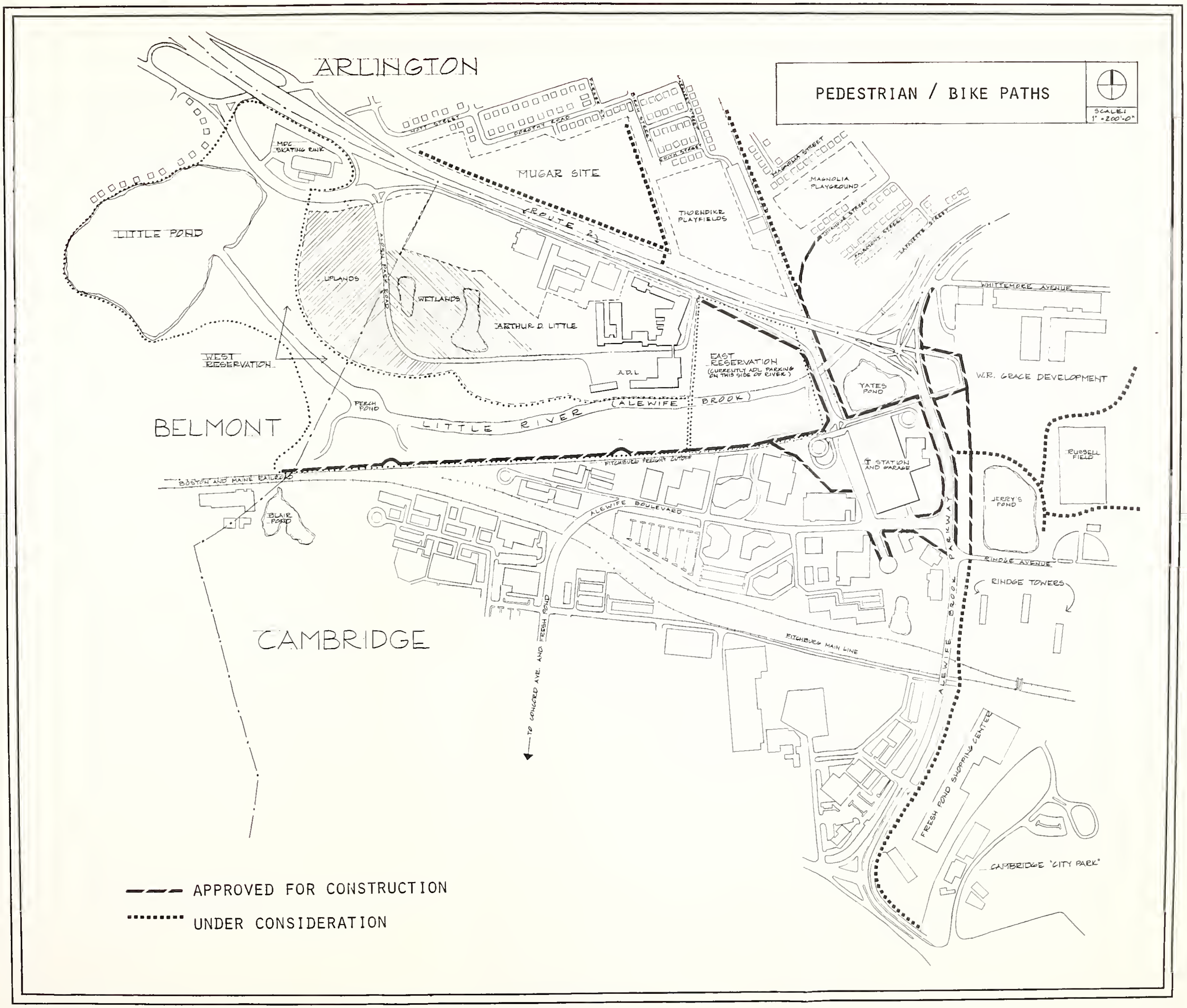
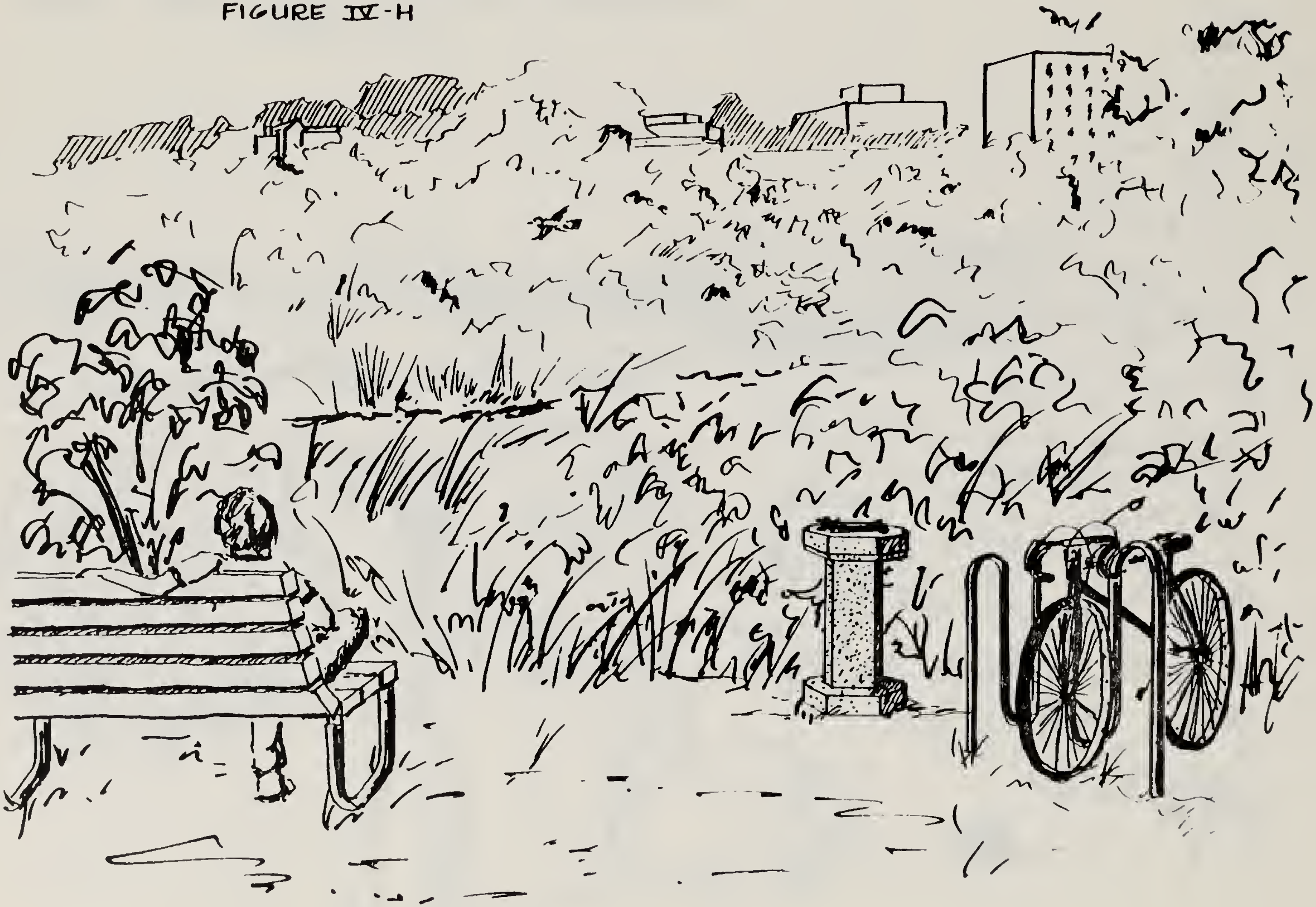

PEDESTRIAN / BIKE PATHS

Figure IV - G

VIEW FROM THE EASTERN OVERLOOK
FIGURE IV-H



VIEW FROM THE WESTERN OVERLOOK
FIGURE IV-I

residential neighborhoods and the North Cambridge Linear Park. The Linear Park is a 10-20 foot wide landscaped strip developed over the Red Line tunnel by the MBTA for the City of Cambridge. A portion of this path system will cross the W.R. Grace property under a "floating" pedestrian easement granted to the City of Cambridge by the W.R. Grace Company. This path system is also shown on Figure IV-G.

Recommendation/Implementation - This plan endorses the construction of the path system by the MBTA.

3) Pedestrian Path to Thorndike Street

This path will begin at the T station, cross Alewife Brook, go under Route 2 and connect to Thorndike Street. This path is included in the MBTA's interim access ramp construction contract.

Recommendation/Implementation - This plan endorses the construction of this path by the MBTA.

b) Paths Under Consideration

There are a number of proposed paths on both public and private property on which no final decisions have been made. These paths can be considered links in the overall path system for the Alewife Study area and are shown on Figure IV-G. The status of these proposals is described below along with the specific plan recommendations.

1) The Arlington Pedestrian/Bike Path

This path would utilize the Lexington Branch Right-of-Way (owned by the MBTA) beginning slightly north of Route 2 and continuing to East Arlington in the vicinity of Spy Pond (outside the study area). This path is part of the proposed Minuteman Bikeway which would extend all the way to Bedford utilizing the Lexington Branch Right-of-Way.

Recommendation/Implementation - The section of the Minuteman Bikeway from Thorndike Field to Spy Pond should be given first priority for construction by DPW.

2) Path from the T station East Entrance around Jerry's Pond/Russell Field

Recommendation - The pedestrian paths proposed in the conceptual design stage of the W.R Grace development should be implemented after the final design has been reviewed by the appropriate local agencies and other interested parties. The proposal provides for the construction of a path from the east entrance of the T station around Jerry's Pond.

Implementation - This path would be constructed by the developer.

3) Mugar Site Pedestrian Paths

Recommendation - The special permit granted in June of 1983 for the development of the Mugar Site included a provision for pedestrian access from Thorndike Field and Burch St. to the Route 2 footbridge along the boundary of the site. It also provides for a pedestrian path and/or bikeway from the westerly border of the site to Thorndike Field along the Route 2 frontage of the site, if practicable and permitted by MDPW.

Implementation - These paths would be constructed by the developer.

4) Alewife Brook Parkway Pedestrian/Bicycle Paths

The majority of previous planning efforts and construction of new paths associated with the interim access project focused on the area north of Rindge Avenue. A planning study is currently underway to design permanent improvements to the Alewife Brook Parkway. A draft EIS/EIR is expected to be released within the next two months. This project will include a pedestrian/bicycle path system between Fresh Pond and the Town of Arlington.

Each of the roadway improvement alternatives in that study includes the same general scheme for pedestrian/ bicycle paths. This system consists of a ten foot wide combined bikeway/sidewalk on the east side of the parkway and a six foot wide pedestrian sidewalk on the west side of the parkway. The portion of this system within the study area is illustrated on Figure IV- G.

Recommendation - The bikeway/pedestrian path system should be constructed as part of the permanent roadway improvements. The actual design of this path system cannot be evaluated independently of the roadway improvements. The appropriate procedure for evaluating the proposed path system is through the EIS/EIR review process and the Alewife Technical Advisory Committee (TAC).

Implementation - This pathway system should be constructed by DPW.

### Goals and Objectives

The path system is designed to accomplish two of the goals of the study. The first is to (# 3) give form to the area and provide linkages between open space areas and other land uses. The second goal is (# 4) to integrate public and private open spaces. Without this path system, the full value of improvements to individual open space elements will not be achieved.

e) Alewife Brook Parkway Improvements

Recommendation - In keeping with the intent and scope of this plan, the following recommendations are concerned primarily with Alewife Brook Parkway as a linear open space element rather than as a road. However, the safe and efficient functioning of this road is an essential factor contributing to the open space value of the parkway. The following approaches to parkway improvements are recommended.

a) Provide pathways and landscaping as buffers along both sides of the parkway from the T station, across the bridge, to the shopping centers and Fresh Pond.

b) Increase landscaping and guide traffic with a median strip where feasible.

c) Provide vehicular and pedestrian access under the bridge for connection between shopping center parking lots.

Implementation - A general landscaping plan has been prepared by Lane, Frenchman and Associates as part of the EIS/EIR on the permanent improvements to Alewife Brook Parkway. The final landscaping plan will not be prepared until an alternative for roadway improvements has been selected. Therefore, the EIS/EIR review process and Alewife TAC structure should be utilized to review future landscaping plans.

## Goals and Objectives

Improvements to Alewife Brook Parkway are necessary to achieve the goal of (# 3) giving form to the area and providing linkages. The landscaping improvements will provide a more unified visual image (# 3 c,d). The improved pedestrian access will help to (# 3b) link the various open space areas with one another and with the surrounding land uses.

## C. Alternatives

A number of alternatives to the Preferred Open Space Plan were evaluated but were rejected because they did not fulfill all of the goals and objectives of this study. Each alternative described below includes all of the other elements of the Preferred Open Space Plan except as noted. Alternatives one and two can be considered the most feasible alternatives if the Preferred Open Space Plan cannot be implemented. These two alternatives fulfill all of the goals and objectives although to a lesser degree than the Preferred Open Space Plan.

1) Private Preservation of the ADL Uplands - This alternative involves protection of the ADL Uplands by means other than acquisition. The site would be protected by some combination of site development restrictions, performance standards or negotiated covenants which could be implemented by the City of Cambridge. This approach was not chosen due to the fact that it is not as strong a protection measure as acquisition.

2) Maintain Existing Reservation Boundaries - The major difference between this alternative and the Preferred Open Space Plan is that there would be no acquisition of the ADL Uplands. This alternative does fulfill all of the goals but still leaves a major area of significant open space unprotected. This alternative achieved the goal of preserving open areas but to a lesser extent than the Preferred Open Space Plan.

3) Existing Level of Recreational Improvements - This alternative includes acquisition of the ADL Uplands and all elements of the path and roadway system, but does not involve any passive recreational improvements (Reservation Riverway Park) on the MDC Reservation East, adjacent to ADL and the Route 2 Rotary. This alternative was rejected because it did not meet the goal of providing for more intensive public uses in areas most accessible to potential users.

4) Consideration of Public Open Spaces Only - This alternative does not include any recommendations concerning the preservation or enhancement of private open space. This alternative eliminates the ADL wetlands from consideration; therefore, it fails to meet the goal of mitigating flooding by preserving wetlands. It also would not achieve the goal of integrating public and private open spaces.

5) Unconnected Open Spaces - This alternative eliminates all pedestrian and bike paths and relies on the existing road network. This approach is unacceptable because it does not meet the goal of providing linkages. The conection of individual elements is essential to the creation of an open space system.

## V. THE USE AND IMPLEMENTATION OF THIS PLAN

### Introduction

The purpose of this Alewife Open Space Study was to produce a set of recommendations designed to preserve, enhance, use and manage the open spaces within the study area. This was done by following the five steps described on Page 3: problem identification, setting goals and objectives, inventory and analysis, development of alternatives which meet the goals and objectives and, selection of a preferred alternative. The sixth step in the planning process is acceptance of the plan and implementation. This final chapter will discuss the issues involved in implementation.

### The Nature of the Plan

The type of plan that is produced for a given area must take into account the specific characteristics of that area. The plan for the Alewife Study Area does this, but is a conceptual plan, rather than a detailed site-specific physical improvements design or a capital improvements program. This conceptual approach was employed because: a) the resources with which to conduct more extensive studies were totally unavailable and, b) before any other work is done, a conceptual plan is necessary to act as a clear guideline for all parties involved in the study area's future.

The first factor which affects open space planning in the area is the "givens." These are the open space improvements that are already committed (or at least definitely planned) for future years both in the immediate and longer-term future. These projects will, or are likely to, occur regardless of any other circumstances, so planning must take place around them. Among these improvements are: access ramp/Yates Pond landscaping restoration, certain pedestrian pathways, possible Parkway upgrading, with landscaping, and proposed municipal park expansions.

The other major factor is the mix of public and private open space. There is no single public agency responsible for all of the open spaces in the Alewife area. In addition, the private sites are in various stages of planning and development. The mix of public and private developers means that there is no central decision-making body. Therefore, a conceptual plan is necessary to guide the many decision-makers whose actions will affect the open space system.

An additional factor affecting the type of plan that could be produced is the limited resources. The funding level for this project was insufficient to support a more in-depth study of the area, none of which alters the fact that a conceptual plan was still absolutely necessary.

Plan Implementation- The implementation of this plan will depend on the cooperation and active participation of many different public agencies and private developers. The following section will discuss the ways in which the plan can be implemented.

## City and Town Agencies

The plan can be implemented through the actions of a number of different city and town agencies including Conservation Commissions, Planning and Community Development officials, parks and recreation departments and public works departments. The design guidelines can be used to review private development proposals for their compatibility with adjacent public open spaces. The plan can also be used in future planning efforts and improvements to regulations by these local agencies. It can also help in developing capital improvements budgets.

Agencies Responsible For Transportation Improvements - The plan can be used by EOTC, MDPW, and MBTA to develop and review all future transportation-related improvements in the area. Because most design work is done by outside consultants, these agencies will need to communicate the open space goals contained in the plan to their consultants as early in the design process as possible.

The Metropolitan District Commission - The MDC is the primary owner of public open space in the Alewife area and therefore, is a key actor in the implementation of the plan. The plan can be used by the MDC as a guide to land acquisition and development. The recommendations in the plan can serve as the basis for doing the more detailed, site-specific planning necessary to implement the Reservation Riverway Park concept.

Private Developers - The open space plan will be helpful to developers because it explains the open space goals for the area and will enable them to develop proposals which reflect those goals. It also contains guidelines which public agencies will be using in reviewing their proposals.

# Appendix A: Alewife Wildlife Species

| Species | Occassional or Seasonal Visitor | Yearround Resident | Breeding | | | | Notes |
|---|---|---|---|---|---|---|---|
| | | | Unlikely | Possible | Probable | Confirmed | |
| Birds Great Blue Heron | X | | X | | | | Feeds along Little River in Fall and early winter. Interim sensitive. |
| Black Crowned Night Heron | X | | | X | | | Many birds though spring and summer. Bred in area until 1903. |
| Green Heron | X | | X | | | | Regular fall visitor. |
| Yellow-crowned Night Heron | X | | X | | | | Infrequently signed. |
| American Bittern | X | | X | | | | Regular fall visitor. |
| Mallard Duck | | X | | | | X | A number of breeds of this duck are seen each summer. |
| Black Duck | X | | X | | | | Little River; Pond is an important wintering location. |
| Canada Goose | X | | X | | | | Flocks rest during migration periods. |
| American Coot | X | | X | | | | |
| Spotted Sandpiper | X | | | X | | | A regular visitor to Reservation, feeding along river banks. Intrusion sensitive. |
| Belted Kingfisher | X | | | X | | | Attempted to nest in 1877. Feeds on fish in river. |
| Osprey | X | | X | | | | This impressive Hawk has been seen taking fish from river. |
| Red Tail Hawk | X | | X | | | | Hunts rabbit in marshes and fields near Acorn Park Road. |
| Kestrel | | X | | | X | | Small falcon often seen hunting in fields. Controls rodent population. |
| Screech Owl | X | | X | | | | |
| Saw-whet Owl | X | | X | | | | |
| Killdear | X | | | X | | | Insect eater. Could nest here, with less disturbance. |
| Woodcock | X | | | | X | | Courtship dispaly in field west of Acorn Park Road each spring. Numbers increasing. |
| Morning Dove | | X | | | | X | |
| Chimney Swift | X | | | X | | | |
| Common Flicker | X | | | X | | | |
| Downey Woodpecker | | X | | | | X | |
| Eastern Kingbird | X | | | | | X | Eats insects |

## Appendix A: Alewife Wildlife Species

| Species | Occassional or Seasonal Visitor | Yearround Resident | Breeding | | | | Notes |
|---|---|---|---|---|---|---|---|
| | | | Unlikely | Possible | Probable | Confirmed | |
| Eastern Phoebe | x | | | x | | | |
| Willow Clycatcher | x | | | | | x | Several pair observed each year. Uncommon bird. Nesting in willow. |
| Eastern Wood Pewee | x | | x | | | | |
| Tree Swallow | x | | | x | | | Eats insects. |
| Rough-winged swallow | x | | | x | | | |
| Blue Jan | | x | | | | x | |
| Common Crow | | x | | | | x | |
| Black-capped Chikadee | | x | | | | x | Feeds on sumac berries in water. |
| Tuffed Titmouse | | x | | | x | | |
| White-breasted Nuthatch | | x | | | x | | |
| House Wren | x | | x | | | | |
| Mockingbird | x | | | | | x | |
| Grey Catbird | x | | | | | x | Unusual in urban suburban areas. Have nested near Yates Pond in recent years. |
| American Robin | x | | | | | x | |
| Ruby-crowned Kinglet | x | | x | | | | |
| Startling | | x | | | | x | |
| Red-eyed Vireo | x | | | | x | | |
| Warbling | x | | | | x | | |
| Yellow Warbler | x | | | | | x | Rare in urban environment. Requires dense thicket prevelent in Res. |
| Myrtle Warbler | x | | | x | | | |
| Common Yellowthroath | x | | | | | x | Also unusual near city. Needs cover and fresh water. |
| American Redstart | x | | | x | | | |
| House Sparrow | | x | | | | x | |
| Red-winged Blackbird | x | | | | | x | As many as 10 pair establish breeding territory in cattail marshes. |

# Appendix A: Alewife Wildlife Species

| Species | Occassional or Seasonal Visitor | Yearround Resident | Breeding | | | | Notes |
|---|---|---|---|---|---|---|---|
| | | | Unlikely | Possible | Probable | Confirmed | |
| Northern Oriole | x | | | | | x | |
| Common Grackle | | x | | | | x | |
| Brown-headed Cowbird | x | | | | | x | |
| Rose-breaster Grosbeak | x | | | x | | | |
| Indigo Bunting | x | | | x | | | |
| House Finch | x | | | | | x | |
| Cardinal | | x | | | | x | |
| American Holdfinch | | x | | | | x | Year round reservation resident. Colorful. Feeds on plant seeds thru winter. |
| Savannah Sparrow | x | | x | | | | |
| Song Sparrow | | x | | | | x | Thrives in dense undergrowth of Recreation. Beautiful song. |
| Dark-eyed Junco | x | | x | | | | |
| White Throated Sparrow | x | | x | | | | |
| White Crowned Sparrow | x | | x | | | | |
| Ring-Neck Pheasant | | x | | | | x | Often seen throughout reservation. Exciting to flush out. |
| | 45 | 16 | 19 | 11 | 7 | 24 | |
| Fish | | | | | | | |
| Blue-back Herring | x | | | | | x | Makes annual run to Little Pond from the sea, arriving in May. |
| Alewife | x | | | | | x | Same as above. In 1984, first seen 24 May, at Winn Brook culvert. |
| Large Mouth Bass | | x | | | | x | Excellent game fish. Numbers will increase with water quality improvements. |
| Sunfish | | x | | | | x | |
| Yellow Perch | | x | | | | x | |
| Carp | | x | | | | x | Prey for wading birds, Osprey, Kingfisher and muskrat. |

## Appendix A: Alewife Wildlife Species

| | | | Breeding | | | | |
|---|---|---|---|---|---|---|---|
| | Occassional or Seasonal Visitor | Yearround Resident | Unlikely | Possible | Probable | Confirmed | |
| **Reptiles** | | | | | | | |
| Painted Turtle | | X | | | | X | Frequently seen sunning on logs. |
| Smooth Green Snake | | X | | | | X | |
| Garter Snake | | X | | | | X | Eaten by hawks and Kestrel |
| **Manmals** | | | | | | | |
| Cattail Rabbitt | | X | | | | X | Feeds on sumac bark in winter. |
| Common Vole | | X | | | | X | Favorite food of Kestrel, Hawks and Owls. |
| White-footed mouse | | X | | | | X | Also eaten by aerial predators. |
| Muskrat | | X | | | | X | Inhabits river and marsh, where standing water is present. |

Source: MAPC, 1984

# Appendix B

## Wetlands in the Alewife Study Area

Source: Final Environmental Impact Statement
Red Line Extension, Harvard Square to
Arlington Heights, 1977.

Due to State and community concern for the wetlands, primary emphasis was placed on identifying them according to the State and Federal classification systems. However, because of the continual disturbance from man's influence, no single wetlands classification system can be directly applied to the Alewife area.

Wetlands can be broadly defined as those areas of land where water is so abundant that it is the major factor which dictates the nature of plant growth on the site. Massachusetts wetlands legislation recognizes four major classes of freshwater wetlands--wet meadows, marshes, swamps and bogs--which are distinguishable by the plant species present. Other criteria used to identify these classes include the presence, depth and duration of surface water coverage, location and/or flood susceptibility.

The system used herein to classify the Alewife wetlands not only follows the general guidelines of the State legislation, but also incorporates parts of the systems developed by Golet and Larson ("Classification of Freshwater Wetlands in the Glaciated Northeast", Resource Publication 116, Fish and Wildlife Service, 1974) and Shaw and Fredine ("Wetlands of the United States", Circular No. 39, U. S. Fish and Wildlife Service, 1956). Although no attempt was made to intensively describe the plant ecology of the area, the application of these systems involved vegetation mapping on a general scale using aerial photographs; field checks to identify the dominant plant species in each subarea; and evaluation of other pertinent ecological components. Although both classification systems stress the value of maximum wildlife production, particularly waterfowl, they recognize other valuable ecological benefits of wetlands.

Four classes and seven subclasses of freshwater wetlands were identified in the Alewife area. Identification was based primarily on the presence of wetland plant species recognized in Massachusetts legislation; the physiognomy, or life-form, of the dominant plants; and the presence of water or location on the floodplain. In certain instances, no observable wetland plants were present nor was surface water present. However, these areas are included in the wetlands classification because of floodplain location or their integral relationship to the open space. Figure VI-14 illustrates the extent and arrangement of the Alewife wetland classes and subclasses, which are described below.

## Marsh

This class applies to emergent vegetational communities existing in standing water throughout the growing season. Although marshes are often classified as shallow or deep, depending on water depth, no field measures were taken to permit such refinements. Most of the marshes in the area, however, are probably shallow, the possible exception being the two-acre cattail marsh in Arlington, northwest of the Route 2 traffic circle. These marshes offer good muskrat habitat and are valuable to waterfowl as resting and feeding places during migrations. Two subclasses were observed:

- Robust Marsh (RM) Robust emergent plant species dominate this subclass. Cattails (Typha) are found in almost pure sands in wet situations and are fringed by reed grass (Phragmites) which grows under slightly drier conditions. Purple loosestrife (Lythrum) is occasionally found. The major locations of these readily identifiable marshes are in Arlington, west of the A. D. Little, Inc. development, and south of the access road to this property. Since the previous year's growth persists, these marshes provide excellent nesting for waterfowl, wading birds, red-winged blackbirds, and other birds as well as winter cover for rabbits and pheasants.

- Narrow-leaved Marsh (NM) This subclass is dominated by bur-reed (Sparganium), bulrushes (Scirpus), and rushes (Juncus). These marshes are limited in distribution to a border around a small, shallow pond south of Perch Pond and to a small pocket between the Boston and Maine railroad tracks and the industrial development. The dominant plants are mainly valuable as food for wildlife.

## Wet Meadow

Surface water is not normally present in this wetland class, but because of the high groundwater table, the soils are saturated within a few inches of the surface. Vegetation includes grasses, sedges, rushes and numerous broad-leaved herbaceous plants, occasionally mixed with some shrub forms. Two subclasses are present:

- Herb-grass Wet Meadow These areas are predominantly covered with unidentified grasses (Graminacae) and numerous herb species including goldenrod (Solidago), vervain (Verbena), primrose (Oenothera), thistle (Cirsium), dock (Rumex), and occasionally blue flag (Iris). Many of the species present are considered indicators of disturbance, illustrating the continuing influence of man's activities. Numerous wildlife species find food, cover and nesting areas in these meadows.

- Grass - Shrub Meadow On slight rises or in areas around which small drainage ditches have been dug, some of the meadows have remained relatively dry; this has permitted the establishment of shrub plants, the initial step in plant succession to forest. The herb-grass components are the same as those listed above, but shrubs such as buttonbush (Cephalanthus), willow (Salix), dogwood (Cornus), brambles (Rubus), and currents (Ribes), are sparsely distributed among the grasses. The ecotonal effect of these diverse life-forms make such areas valuable to wildlife.

## Seasonally Flooded Flats

These areas have been a problem for the classification system since they have characteristics of both seasonally flooded flats and swamps. These are defined by the presence of standing water through most of the growing season. Massachusetts wetland laws recognize swamps and although many "swamp" plant species are found, other hydrologic factors at Alewife do not coincide with these categories. Seasonally flooded flats occur on extensive river floodplains where flooding to depths of 12 inches or more occurs annually. Although the water usually subsides in summer, the soil remains waterlogged much of the year. In the case of the Alewife floodplain, however, flooding is irregular. The wetland plant communities have been classified as seasonally flooded flats because of the floodplain location and because plant succession has progressed to shrub and wood seres apparently as a function of the soil moisture. A detailed field study of groundwater depths, plant types, density and frequency, and soil conditions may result in redefining these areas as swamps. Three subclasses have been discerned:

- Seasonally Flooded Shrub Flat Bushy shrub vegetation is dominant and includes buttonbush (Cephalanthus), willow (Salix), alder (Alnus), dogwood (Cornus) and Viburnum. In particular, many of the shrub flat areas are composed of pure stands of buttonbush. Unless standing water is present, these areas are valuable as breeding and feeding habitat for passerine birds and small mammals. A major portion of the southern Little River floodplain is Cephalanthus-dominated shrub flat.

- Seasonally Flooded Wood Flats In certain places, plant succession has progressed to the bottomland wood stage. Many typical swamp species are present, such as elm (Ulmus), red maple (Acer), ash (Fraxinus), and numerous shrubby trees are also present (alder, willow, birch). Other trees present which are not considered wetland species include aspen (Populus), oak (Quercus), cherry (Prunus), and sumac (Rhus). Sumac is a notable dominant plant at Alewife, often forming large, uniform aged stands, particularly on higher ridges. These are included in the wetlands classification because of their close association with the other plant communities. The major wood flats occur adjacent to Little Pond along the Little River and south of the A. D. Little, Inc. east parking lot.

- Seasonally Flooded Sapling Shrub Flats This category forms a discrete, transitional stage between the shrub flat and wood flat communities. It is found in places where young trees are dispersed among the shrubs. Such sapling shrub or shrub-wood flats form ecotonal "edges" between the shrub and wood flats and are found as relatively small areas scattered throughout the wetland area.

Open Water

This class applies to deeper waters associated with wetlands. Although the surface water may be covered with floating vegetation, the open waters at Alewife--Little Pond, Alewife Brook and the other small ponds--are non-vegetated. Submergent plant forms, such as Pondweed (Potamogeton), bladderwort (Utricularia), and water milfoil (Myriophyllum), typically occur in this type of environment. Large clumps of moribund algae are often seen floating down the brook. Open water provides resting and feeding habitat for waterfowl during migration but its value to other terrestrial wildlife is limited.

Three other miscellaneous types of vegetation/ground cover were observed at Alewife and are presented to complete the vegetative description.

## Grass-Fill

In some places, fill material has been allowed to revegetate and has been sparsely covered with a heterogenous mixture of grasses, sedges and shrub sprouts. These communities are located on either side of the A. D. Little, Inc. development and in a large area west of the A. D. Little, Inc. access road. Much of this latter area is covered with young shoots of viburnum. These areas are presently of minimal value to wildlife but as they become revegetated, their habitat value will increase.

## Burned Areas

Areas that dry out in the fall have occasionally been set afire, apparently through accident or design by youngsters playing in the area. Although this uncontrolled burning is not widespread, it does eliminate the absorptive organic peat which is built up in these areas. Fire, however, retards plant succession by eliminating shrubs and tree saplings and is unknowingly an effective management tool useful in preserving the meadow wetland types. These burns are usually revegetated the following spring and summer with the annual grasses and herbs in the area or with the plant species present before burning if the sod is not severely damaged.

## Roadside Vegetation

Along the Route 2 right-of-way and adjacent to the lower part of Alewife Brook are hardy grasses, domesticated, hybrid sedges, and various small shrubs commonly used to stabilize open cuts; their value is mostly esthetic,but they also act as a filtering device for oils and other contaminants that are washed off the highways.

## Additional Wetlands Evaluation Criteria

Size, physiographic location, amount of vegetative cover, and other factors are also useful in evaluating the quality of wetlands. These are briefly discussed below.

# Appendix C

## List of Comments

Extensive comments on this plan and earlier drafts of the plan were received from the Mystic River Watershed Association and Charles W. Eliot II. Copies of these comments are on file in the MAPC offices at 110 Tremont Street, Boston and are available for inspection.

# REFERENCES

Arlington Open Space Study Committee, Arlington Open Space Study, 1973.

Belmont Planning Board, Recreation, Conservation and Open Space Plan, 1979.

Boston Redevelopment Authority, Boston Urban Wilds, 1976.

Camp Dresser and McKee Inc., (for the Metropolitan District Commission), Mystic River Comprehensive Hydrology Study Final Report, 1981.

City Design Collaborative, Inc., (for the Arlington Redevelopment Board and the Department of Planning and Community Development), East Arlington Development and Open Space Study: Summary Report.

City of Cambridge Community Development Department, Alewife Revitalization: Alewife Urban Design Study Phase II, 1979.

Cortell, Jason M. and Associates, Inc., Draft Environmental Impact Report: Arthur D. Little, Inc. New Office Facility, 1984.

Leedy, Daniel L., Fruldin, Thomas M. and Maestro, Robert M., Planning for Wildlife in Cities and Suburbs, ASPO - PAS Report #331, 1978.

Massachusetts Bay Transportation Authority, Final Environmental Impact Statement, Red Line Extension - Harvard Square to Arlington Heights, 1977.

Metropolitan Area Planning Council

Alewife Open Space: Objectives and Recommendations for the Development of a Park and Open Space Network (for the Alewife Task Force), 1978.

Open Space and Recreation Program for Metropolitan Boston, Volume 3: The Mystic, Charles and Neponset Rivers, 1969.

River Systems Study: A Planning Perspective, unpublished.

The 1976 Regional Open Space Plan.

Resource Analysis, Inc., MBTA Alewife Special Studies - Final Report, 1978.

Sanders, Stewart, Personal Field Notes, unpublished.

Smith, Fred, Evaluation of Natural Cover and Remoteness Model, unpublished.

Sverdrup and Parcel and Associates (for the Massachusetts Bay Transportation Authority), Final Environmental Impact Report, MBTA Alewife Station Interim Access-Arlington and Cambridge, 1984.

Vanasse/Hangen Associates, Inc., Final Environmental Impact Report - Arlington office park, Route 2, 1982.